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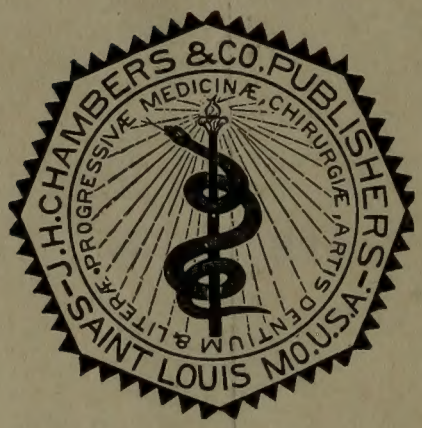

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# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### INFANTILE CONVULSIONS.

BY I. N. LOVE, M. D., ST. LOUIS.

Read by invitation before the McDowell Medical Society Annual Meeting, at Henderson, Ky., Nov., 1888.

The subject of Infantile Convulsions is not a trifling one, as one of the first stories I heard related after my entrance into the profession, regarding one of the numerous "Doc. Sifers" of the early times would indicate. The traditional boaster announced that, if he could only turn any case he was called to, into "fits" he was all right as he was "h——l on fits."

The majority of cases to which the young practitioner is called are emergencies and a good percentage of these are the petted darlings of the household in the "struggling spasm." It would be superfluous on my part to describe an attack of eclampsia. A single seizure does not differ from epilepsy except that the latter is characterized by its chronic course, and sudden recurrence and freedom from fever.

It goes without saying that a convulsion is in itself not a symptom of a pathological condition in the organism and yet that this fact is often overlooked is evidenced by the mortality records of the city of St. Louis, which are made up from the death certificates furnished the Health Department by the legal practitioners of the city all of whom under the law are graduates of medical colleges.

In 1886, 441 infants were reported as dying from "convulsions" and in 1887, the number was 437.

It seems to me clear that our first duty is to determine the cause of the paroxysm and remove it if possible instituting at the same time efforts towards calming the agitation. Intelligent treatment certainly demands the ascertainment of the cause first if possible in spite of the fact that Henoch the great authority of Berlin, in his text-book based upon thirty-seven years of metropolitan practice, says: "If you are called to a case of this kind and find the child in convulsions, no time is left to enter carefully into the cause of the attack and you must immediately begin treatment." After announcing free and almost careless administration of chloroform (even leaving it to nurses) as being the sheet anchor, he says: "As soon as the convulsions have ceased the cause of the disease must be taken into consideration."

The fallacy of this statement can best be illustrated by the following case: Joseph M., æt. 15 months, Sept. 1883, at 3 P.M., taken with spasm, physician summoned, who administered chloroform during continuence of attack of more than half an hour, at end of which time the child became quiet and bromide and chloral were ordered to be given to prevent a recurrence, medical attendant left assuring family that the child was all right but that he would return that night and visit it. One-half hour later convulsions returned with increased violence and being summoned I at once placed my thermometer in the rectum and discovered a temperature of 107°.

A cool bath promptly relieved the spasm, having reduced the temperature; the child remained asleep and tranquil for two hours; the nervous symptoms again pointed toward spasm; the thermometer in the rectum marked 105°. Another bath relieved.

The case developed into a malignant scarlet fever, and death was the result.

Whatever be the cause, whether light or

serious, it should be removed as prompt as possible. The chronic tendency to convulsions, known as epilepsy, has much of habit in it. Each succeeding fit that comes prepares the brain for another, and the trivial convulsion, whether caused by indigestion, dentition, fright, excitement or high temperature, unchecked at their first onset may develop the chronic epileptic or the idiot.

Heredity is a very important factor.

Some children upon the slightest provocation may be thrown into a convulsion; with such the parents have been as a rule similarly affected. Bonchut relates the history of a family of ten persons, all of whom suffered in their youth from convulsions. One girl of this family married, gave birth to ten children and nine of these suffered from eclampsia (Vogel).

The majority of convulsions of infantile life are of reflex origin, owing, no doubt, to the predominance of the spinal over the cerebral system in early life. As the brain develops and becomes better organized, increasing in size and power and diminishing in friability and sensitiveness, convulsions become more rare in occurrence.

A brief reference to the various disturbances entering into the causation of infantile eclampsia is in order.

The first essential is the neurotic diathesis, a weakened nervous system and consequent increase of irritability dependent on loss of blood, mal-nutrition, expressed by anemia, loss of flesh, rickety mal-formation and defective ossification; or the diathesis may be due to inheritance from an hysterical, highly nervous or epileptic mother, or a drunken father, or from tuberculous parents whose children are defective in their development and nutrition of nerve tissue.

A complete knowledge of family history with proper efforts exerted to remedy the defective equipment in the way of good nutrition, flesh, pure air, sunshine, tranquil, unexcitable life, with judicious training and moral restraint, will accomplish much and we may be rewarded with a suberb specimen of physical, mental and moral manhood in the end. It is no doubt that in many cases the treatment of our little patient as Oliver Wendell Holmes would say, should have been begun a century before. Yet with constant and unceasing watchfulness we may accomplish much though we start later.

With other conditions favorable teething with angry engorged gums and the frequent accompaniment of disturbed digestion may be a potent cause of convulsions.

A free incision of the swollen gum may be all sufficient but if the irritation be great the careful bathing of the gum with ice or a five per cent solution of nuriate of cocaine will be desirable.

One of the few positions taken by my esteemed friend, Dr. J. Lewis Smith, of New York, whom we all love and honor, which I cannot accept, is wherein he decries the importance of the teething process.

One who has ever in later life in spite of a well developed nervous system suffered from the acute irritation of an erupting wisdom tooth can but realize that cutting teeth is no child's play to the delicate and sensitive body.

Gorging the stomach with improper food has been known to completely demoralize a healthy adult. The effect upon the sympathetic nervous system of a little one is pronounced, the means of relief obvious—emesis—enemeta (of a dram of warm glycerine)—calomel purge—aids to digestion.

Careful selection and limitation of food.

Infants should be guarded against constipation and to this end nothing surpasses the following:

| | |
|---|---|
| Tr. Nucis Vom., - - | ℥ss. |
| Tr. Belladonnæ, - - | gtt.xv. |
| Aloin, - - - | gr.ss. |
| Alcohol, - - - | ʒi. |
| Elix. Lacto Peptine, - | ℥i. |
| Glycerine, - - | ʒiii. |
| Syr. Simpl., - - | ℥ss. |

M. Sig. Teaspoonful at bed time or if need be twice daily.

No doubt the cases of convulsions referred to the anger or emotional excitement of the mother or her nurse is due to indigestion

occasioned by the change in the milk nursed.

Worms are charged with being a frequent cause of eclampsia but the testimony of Henoch is to the effect that he had never seen a case which could with certainty be traced to worms.

My own observation while by no means as extensive corresponds with this writer.

Anthelmentics should not be ignored however.

High temperatures occasioned by the initiatory stage of the eruptive fevers, pneumonia, pleurisy, enteritis, meningitis and malarial or typhoid fever is a frequent cause of convulsions but this can be promptly ascertained by the use of the thermometer and after which the course to pursue is well defined. Not the traditional bath of mustard and hot water but the cooling bath and possibly the wet pack. We should put out the fire, not feed it. In this connection I recall two cases a reference to one of which will be sufficient.

M. A., æt. 3, December 24, coasted with nurse entire afternoon and the pleasure was rudely terminated by the child being terribly frightened by the sled being permitted to carry her under a bridge which was dark and forbidding, was put to bed in the regular way having eaten an unusually light supper, in room adjoining mother's with light turned down. At nine o'clock mother heard child breathing stentoriously, and discovered her in convulsions and skin very hot, face red and flushed.

The physician summoned put her into an intensely hot bath with mustard and renewed the water time and again as the convulsions lasted over an hour and a half and then ceased, the attendant announcing to parents that she was all right as he had stopped the convulsions not realizing that the muscular contractility was exhausted and hence the stoppage of spasms.

On entering I found that no history had been elicited, no temperature taken and I soon discovered that the thermometer registered 109° F., and when I informed the doctor that in my judgment the child would die before morning he could not believe it. The family were cruelly awakened from their false hopes and the child lived but a few hours.

I am free to say that in the majority of cases I think the hot mustard bath an injury rather than a benefit. Every child in convulsions should be at once stripped and whatever else be done the thermometer should be used, preferably in the rectum.

Having eliminated high temperature, indigestion, worms (?), teething, the possibility of irritation being caused by foreign bodies being introduced into the entrances of the various canals should be remembered, the ear should be examined not only for foreign bodies but also for possible interior inflammation. A recent history of scarlet fever may develop suppression of urine and uremia as the trouble.

Remembering that tubercular meningitis (according to high authorities) is a most frequent cause of infant mortality it should not be lost sight of; indeed I think meningeal tubercle a frequent cause of convulsions, in ill nourishing children and did time permit, I would cite several clinical illustrations from my case-book. I am firmly convinced that the post-mortem evidence would favor the idea that many more poorly fed babies die from tubercle in the brain than we imagine.

The relation between an elongated, narrow, adherent prepuce with the consequent inflammatory disturbance dependent upon accumulated secretions and reflex convulsions should be recalled to mind and if the conditions demand, circumcision should be promptly performed.

Among obscure causes of well defined infantile convulsions which may be overlooked there occurred under my observation the case of a two months child which had been banefully affected by belladonna carlessly applied in shape of belladonna ointment to the breast of the mother by the nurse without the knowledge of the attending physician.

As a very unusual cause of fatal eclampsia I recall the bottle fed infant of a morphine eating mother which I innocently but ignorantly

permitted to die in convulsions occasioned by cerebral disturbance which might have been relieved by the administration of the proper amount of drug necessary to meet the demands of the morphine habit which it had inherited.

Undoubtedly the congestion occasioned by a malarial seizure is a frequent cause of convulsions and in plethoric children we should not loose sight of the value of leeching over the temples and behind the ears.

I desire to emphasize the following points:

1. We must not loose sight of the fact that a convulsion is only a symptom and not a disease.

We must promptly determine the cause and then intelligently and energetically eliminate it.

2. We can probably classify the majority of cases of infantile convulsions as being caused by ill fed nerve centers (rachitics and victims of tuberculosis), reflex irritations and cerebro-spinal engorgements and congestions dependent upon the high temperatures incident to the poisons of malaria, the infectious diseases and norcotics.

3. As we can make a triple classification in the etiology it follows that we should have a similar division in the matter of treatment, and succinctly stated we may designate the latter as (*a*) nutritive and constructive, (*b*) a removal of all irritation from the sympathetic system, (*c*) antiphlogestic eliminature cooling and sedative.

4. While calming the fears of the agonized parents, whose child is taken with a spasm, by assurances that an infant rarely dies in this manner, and causes, the most insignificant sometimes occasion the disturbance, we should not fail to impress them with the fact that it is a serious matter, and that the best possible way to treat the convulsive diathetes is a perfect hygienic regime, prevention by good food, proper clothing, fresh air and sunshine, plenty of sleep and avoidance of all excitement.

5. On discovering a child in an eclamptic paroxysm, no one article is more essential to a proper examination than a well tested thermometer (it being practically the doctor's sixth sense which enables him to go far toward making a diagnosis), and the only proper place for locating it in ascertaining the degree of fever is the rectum, leaving it in situ not less than three minutes.

6. For the prompt quelling of a spasm, chloroform by inhalation is a most valuable remedy, but it should be used carefully and not too early, as it may serve as an agent to mask the true condition of the patient, the hiding of the danger signal kindly thrown out by Dame Nature.

7. In the cooling bath we have a prompt and potent means for quelling the riotous condition of the cerebro-spinal system, not the sudden ice-cold bath as that borders on the brutal, but the water in the beginning, about the temperature of the patient, and gradually reduced to 70° or 60° Fahrenheit, and possibly lower if the indications call for it.

8. In acetanilid I am sure we have a most valuable remedy for the relief and prevention of convulsions. Clinical experience for one year justifies the conclusion. The action of the drug is rapid, usually beginning to manifest itself within an hour, and not infrequently within 20 minutes, its full effect reached in four hours.

Pulse and respiration are showed, arterial tension rises, diuresis and diaphoresis occur, pain is relieved and sleep usually ensues. No very great amount of depression follow's if given carefully, but an exanthematous rash now and then accompanies its administration.

In confirmation of my own experience of its value in the convulsive diathesis I note the fact that Dr. H. N. Mayer in the *London Med. Rec.*, of Aug. 20, 1888, reports favorably on its use in epilepsy, five grain doses three times daily.

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Cremation.—It is stated that there are 22 crematories in Europe, of which 10 have been built during the past year. There are 7 crematories in the United States, and 6 in the process of erection.

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SATURDAY, JANUARY 5, 1889.

## APOLOGETIC!

The REVIEW begs leave to tender an apology for the long delay of the present issue.

The serious illness of the association editor, Dr. R. L. Thomson, coupled with the fact that the members of the Press Association have all been more than usually busy in a professional way is our excuse. We trust that our readers will pardon our seeming neglect of duty.

Dr. Thomson is now completely recovered, the Executive Committee of the Press Association which has the control of these columns has been slightly disfigured by recent events, but it is "still in the ring," figuratively speaking, doing business at the old stand, and we promise that the cheerful face of this journal shall be presented to its subscribers, one and all, promptly each and every week during the coming year.

We shall endeavor to recompense our subscribers for recent derelections by making a more than unsually energetic effort to give them a good journal, full of the current thought of our rapidly advancing profession.

We bow our grateful acknowledgment to friends, and may the Good Father keep them and prosper them and theirs during 1889, and let us all preach and practice the glad tidings of "peace on earth, good will to men."

## MASTOID DISEASE AND ITS TREATMENT.

Dr. H. S. Morse read an interesting paper upon this subject before the Boston Society for Medical Improvement (*Bost. Med. and Surg. Jour.*). He showed four specimens of the temporal bone, and demonstrated that the anatomical structure of the mastoid process differed markedly in the specimens presented. He stated that the antrum and cells of the mastoid are involved to a greater or less extent in all inflammations of the tympanic cavity.

Dr. D. B. St. John Roosa teaches that if a case of acute inflammation of the tympanic cavity is seen before suppuration has taken place, this untoward event can be prevented in nearly every case by the prompt application of the proper remedies. Inflammation of these cavities nearly always has its origin in the tympanum, and it is highly probable that it rarely extends to the mastoid cells till suppuration has taken place and pus is forced into them by a hyper accumulation in the tympanum. When suppuration has taken place, Dr. Morse recommends that an incision be made in the drum membrane, and that the ear be gently inflated by Politzer's air douche or the eustachian catheter.

Certainly it is good practice to perform paracetnesis in such cases, but I cannot believe that it is good practice to inflate the tympanum, however gently, when it is acutely inflamed.

If a sufficient opening is made in the drum, a tepid solution of peroxide of hydrogen will clear the cavity far better than can be done in any other way. In acute cases no other remedy at our command is so potent for good as the application of leeches. The hot douche ranks next in importance in the relief of pain. If there is free drainage through the external auditory canal, and the application of these two remedies does not afford relief from pain, the mastoid cells are most likely involved.

There is a marked difference of opinion among men of high authority as to when drainage should be established by making an opening through the bone into the mastoid cells. Some hold that this operation is unnecessary, while others furnish pretty conclusive proof that lives have been saved by

this procedure. Certainly when granulation tissue has formed in the mastoid cells the patient will perish unless the granulations be removed by surgical means. Again, if there is reason to believe that there is pus in the cells, and head symptoms supervene, no time should be lost before performing the operation. An instructive article on this subject can be found in the REVIEW of September 15, 1888.

Dr. Morse (in the article from which I have quoted) described a class of cases some of which it is difficult to differentiate from suppuration in the mastoid cells.

He said: In another class of cases, usually where the discharge from the middle ear has been established for some time, and the case has been treated at home without calling in a doctor, the external auditory canal is swollen to such an extent that it is impossible to get a view of the membrana. The mastoid is red, very tender, and often edematous.

The first thing to be done is to douche the external canal, frequently and gently, with warm water, to endeavor to reduce the swelling somewhat. If we succeed in this, we almost always find that there is an insufficient opening in the membrana, which has to be enlarged as in the preceding cases; we also find that the discharge, in its efforts to make an outlet for itself, has forced the posterior superior portion of the membrana tympani away from its attachment to the bony wall of external auditory canal, and that the pus has dissected its way outward between the skin and the bony wall, causing the soft parts to bulge downward into the lumen of the canal, and to materially diminish its caliber.

A very free incision should be made into this fluctuating mass, both to give free exit to the pus already collected there, and to serve as an additional outlet for the discharge from the middle ear, beside the opening in the membrana. In these cases also, syringing through the eustachian tube is very often useful, to wash out the swollen and obstructed tympanic cavity.

If the pain, tenderness, and swelling over the mastoid are marked, it is usually necessary, in addition to what I have already mentioned, to apply leeches just behind the auricle, and close to it; I prefer the live leeches, and put on from two to four. In case the doctor does not attend personally to the leeching, it is well to mark on the skin the spots where he wishes them to be applied, otherwise they are very apt to be put on so far away from the auricle as to be of little or no use.

In case the artificial leech is used, Dr. Bacon's instrument, which I have here, is, I think, the best and most convenient. It has the advantages that it is possible to take the blood from the exact spot desired, that the exact amount of blood necessary can be extracted, and that it is much quicker and more convenient. I do not think, however, that it draws the blood from the deeper tissues so well as the live leeches do.

At a later stage in these cases we have the same bagging downward of the posterior superior wall of the external canal, and pain, tenderness, swelling and doubtful fluctuation behind the ear. Here the pus, besides dissecting the soft parts of the external auditory canal away from its bony wall, has forced its way through one of the fissures of Santorini in the posterior wall of the cartilaginous portion of the external canal, and has formed a more or less well defined abscess either under the periosteum covering the external surface of the mastoid, or in the soft parts outside of the periosteum. In these cases the treatment would be the same as given above, except that instead of leeching we should etherize the patient, and make an incision about an inch long behind the auricle and parallel to it, down to the bone, being careful to divide the periosteum by the cut. This operation serves two purposes: it lets the blood freely at the exact spot where it is advisable to do so, and if there is a collection of pus it gives it free outlet. The wound must be probed daily, and kept freely open down to the bone, as long as bare bone can be felt in the wound, or a swollen bulging condition of the posterior wall of the external canal can be seen.

### Transplanting a Rabbit's Cornea into the Human Eye.

Dr. Chisolm, of Baltimore, performed Von Hippel's operation upon a patient about six months ago. Dr. Chisolm now writes (*Medical Record*): "The transplanting of a disk of rabbit's cornea for the purpose of rendering the central portion of an opaque human cornea useful is in this case already so much of a success as to warrant its repetition on any suitable case which may present itself."

From the description which Dr. Chisolm gives of the condition of his patient at the time of the operation, I am inclined to think it was favorable. The cornea was extremely vascular, being covered with a fleshy layer of granulation tissue.

The transplanted button has been gradually clearing up and at present the patient can "see persons ten feet off, but not to recognize them."

This operation is applicable to only a very limited class of cases. Dr. Chisolm said: "All cases of corneal blindness are not suitable cases for transplanting. Most of such diseased eyes are the sequel of perforating or sloughing ulcers of the cornea, with amalgamation of iris and cicatricial tissue, and with no aqueous chamber. The *sine qua non* of a proper case for operation is a perfect elastic membrane of Descemet, and a normal an terior chamber, filled with aqueous fluid. The lens and iris must also be intact, with a free pupil. For successful transplanting there must be a transparent membrane of Descemet as the foundation upon which to plant the graft."

The result in this one case establishes this operation as justifiable in a certain class in which all milder means have failed to restore any vision.

### Asphyxiation by Illuminating Gas.

At a recent meeting of the American Gas Light Association of Toronto, the following rules were given to be followed when men are overcome by gas.

1. Take the man at once into fresh air. Don't crowd around him.
2. Keep him on his back. Don't raise his head, nor turn him on his side.
3. Loosen his clothing at his neck and waist.
4. Give a little brandy and water—not more than four tablespoonfuls of brandy in all. Give the ammonia mixture (one part aromatic ammonia to sixteen parts water) in small quantities, at short intervals—a teaspoonful every two or three minutes.
5. Slap the face and chest with the wet end of a towel.
6. Apply warmth and friction if the body and limbs are cold.
7. If the breathing is feeble or irregular, artificial respiration should be used and kept up until there is no doubt that it can no longer be of use.
8. Administer oxygen.—*Mary. Medical Journal.*

### Cocaine in Ophthalmic Surgery.

The *Medical Record* gives a brief *resumé* of a paper on this subject written by Dr. Samuel Theobold, of Baltimore. The latter has found that "the action of the drug in causing anemia of the conjunctiva and hardening of the cornea" increases the difficulty of sub-conjunctival tenotomy for the cure of strabismus.

I am unable to see in what way "hardening the cornea" can affect tenotomy.

In enumerating the advantages gained b the use of cocaine in cataract extraction, Dr. Theobold said: "Although the corneal section is more difficult under cocaine, by reason of the drying of this tissue, the disadvantage is compensated for by the fact that the patient is conscious and vision can therefore be tested."

I can but regard the testing of a patient's vision immediately after the lens has been extracted only as a gratification of curiosity, and when the operation is finished, the sooner the eye is closed and kept closed the better for the patient. After the lens is out, the pres-

ence or absence of vision is no indication for further operative procedure.

Under cocaine-anesthesia hemorrhage into the anterior chamber is much less likely to occur than when ether is used, in the event an iridectomy is required.

There is some risk to life in the use of ether; I believe that cocaine is absolutely free from this danger when applied locally in cataract extractions.

As Dr. Theobold says, an advantage in its use that is of much importance is the fact that the surgeon can in many cases dispense with the services of an assistant. In the removal of foreign bodies from the cornea or conjunctiva, cocaine is indeed a boon.

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## Absolute Signs of Death.

An abstract of a paper upon this subject, read by Dr. B. W. Richardson before the Medical Society of London, appears in the *Brit. Med. Jour.*, of December 15th.

The thought of "returning to life" while one is securely boxed, six feet under ground, is so appalling as to make this a question of universal interest. The horror of such a calamity has led to an exaggeration of the danger that it may occur. Experiments upon lower animals have proven that if respiration be absolutely suspended for more than five minutes, life will be extinct. In the great majority of cases of death, breathing is in the form of gasps just before the final dissolution, the intervals between them being lengthened as the end approaches, and it is very apparent when these gasps cease as it has been proven as stated above that they cannot be longer than five minutes apart.

Dr. Richardson gave the following reasons which led the friends of persons supposed to be dead to question the fact of death: (*a*) Changes of color of the dead body; (*b*) retention of warmth; (*c*) movements of parts, or supposed movements; (*d*) retention of life—like expression after death; (*e*) prolonged preservation of the body from putrefactive decomposition; (*f*) suspension of the ordinary phenomena of vital action after some forms of induced narcotism; (*g*) the cataleptic state, traumatic and idiopathic. One other circumstance might also give rise to the inquiry—namely, a request on the part of the person whilst living to be subjected to skilled examination after death, in order to prevent the possibility of living burial. The author twice in his career had been called in to meet this demand or request.

When we remember the great distress that is so often caused by the loss of friends, we cannot wonder that the singular phenomena which has many times been observed to follow death, should create doubts as to the fact that life has become extinct. It is indeed remarkable to what a low ebb the vital forces may be reduced, and yet the patient return to a state of health. Among the phenomena given above, retention of heat by the body is perhaps the most difficult one for the laity to believe may exist for any length of time after death; and yet it is very generally known to physicians that the heat of the body may become elevated several degrees. An instance came under my observation in which temperature remained above a 100 for more than 36 hours. We are so accustomed to such expressions as "cold in death," "rigid in death" and the "cold grave," that heat in a dead body seems a very unnatural condition.

The proofs enumerated by Dr. Richardson by which we may demonstrate that death has taken place are as follows: (1) Respiratory failure, including absence of visible movements of the chest, absence of respiratory murmur, and absence of water vapor from the breath; (2) cardiac failure, including absence of arterial pulsation, of cardiac motion, and of cardiac sounds, absence of turgescence or filling of the veins on making pressure between them and the heart; (3) reduction of the temperature of the body below the natural standard; (4) rigor mortis and muscular collapse; (5) coagulation of blood in the veins; (6) putrefactive decomposition; (7) absence of red color in semi-transparent parts under the influence of a powderful light; (8) absence of muscular contraction under the stimulus of an electric or galvanic current; (9) absence of

a red blotch on the skin after the subcutaneous injection of ammonia; (10) absence of signs of rust (oxidation) of a bright steel needle after plunging it deeply into the tissues.

Of the second proof Dr. Richardson recommends that a splint be placed along the front of the forearm (of the person supposed to be dead) and a cord wrapped sufficiently tight around the arm and splint as to close the caliber of the veins on the back of the arm. By this contrivance, if there is the slightest circulation, the blood will pass uninterrupted through the radical and ulnar arteries and fill the veins on the back of the hand and arm below the constriction.

Some years ago a prize was offered in France for the best means of determining whether or not death has taken place, and the seventh proof, absence of red color in the semi-transparent parts under the influence of a powerful light, won the award.

In regard to putrefactive changes, Dr. Richardson said they might be prevented for a time by a low degree of temperature of the surrounding atmosphere, or by the introduction into the body before death, of some antiseptic drug such as alcohol. If the body be kept in a warm, moist atmosphere, if life be extinct, decomposition will soon begin, and if it be a case of suspended animation, such conditions would aid the return of vitality.

In the discussion which followed the reading of the paper, Dr. Althaus gave as his opinion that aside from decomposition, the only really reliable test was the reaction of muscles to electricity. In no disease, short of death, was the contractility of muscles absolutely destroyed all over the body at the same time. He said that very soon after the heart ceased to beat, a steady and perceptible diminution in the extent to which the muscles responded to the electrical current was noticed, and all trace of reaction disappeared in about two hours, certainly within three hours. It persisted longest in powerful men the victims of violent death.

## SOCIETY PROCEEDINGS.

### ST. LOUIS MEDICAL SOCIETY.

Stated meeting, Saturday, Dec. 29, 1888. The President, Young H. Bond, M. D., in the chair; J. B. Prichard, M. D., Secretary.

Dr. L. E. Newman presented a patient and said:

This man was shot about eight weeks ago, on Ootober 28. I was called to see him about half an hour later, and found him in a condition of collapse, with a weak and thready pulse, his skin cold and clammy. He was shot in the back; a thirty-two caliber bullet entered just beneath the angle of the scapula and penetrated the lung, but did not go through the anterior wall of the chest.

Emphysema of the tissues existed when I first saw him; there was great pain and dyspnea. I found the chest was entirely filled with blood, at least I concluded that it was from the symptoms, and there was no respiratory murmur to be heard over the side of the chest.

I found his condition to be such that I did not consider it advisable to probe the wound, so I let it alone, putting on a simple dressing, after having washed the wound and surrounding parts. I ordered morphine for the pain.

He had fever for ten days, and his improvement was of a very marked character. Of course in the meantime he had a considable amount of cough and dyspnea, and all the symptoms that usually occur from the amount of compression of the lung which was present. The fever never went above 102.5° in the evening, and it got down as low as 100° in the morning. On the eleventh day I called to see the patient and found that, contrary to my directions, he had got up. He was feeling so well that he attempted to wait on himself, and in the effort, he had evidently ruptured some of the inflammatory adhesions that had taken place between the lung and pleura. I found him in a worse condition than he was immediately after he was shot. His pulse was again weak and

thready, and the pain and dyspnea were very urgent.

I got some adhesive plasters and strapped his chest firmly, which seemed to relieve him somewhat. I also gave him a hypodermic injection of morphia and let him alone.

Four weeks subsequently he came to my office. That was the first time he was out, and he had found a little lump in front of the chest, which he told me had made its appearance about three days before that; this lump had evidently been forced down between the ribs in an attack of coughing. It was the bullet; I cut down upon it and removed it. The case went on to complete recovery. The man is here, apparently perfectly well. He was also shot in the thigh, but that was only a flesh wound and did not amount to much. I have both bullets here; the one which went through the chest is very badly mashed, from contact with the rib, probably.

Dr. G. F. Hulbert.—I understand that the doctor allowed nature to be the doctor in this case, and I would like to ask some of the antiseptic surgeons present what would have been their procedure under like circumstances.

Dr. Bond.—Does Dr. Lutz desire to answer that question?

Dr. F. J. Lutz.—Of course nobody would commit himself to any other course of treatment than that adopted in this case which terminated so successfully.

Dr. Bond.—Does Dr. Borck desire to make any remarks?

Dr. Edw. Borck.—I can only endorse what Dr. Lutz has said.

Dr. Bond.—We would be glad to hear from Dr. Boisliniere.

Dr. L. Ch. Boisliniere.—I think the doctor managed the case very well. It will be remembered that Dupuytren, the great French surgeon, became celebrated from a case similar to this one. He was the surgeon of the opera. You know the opera house had a surgeon, and the Duke of Angoyne (?), one of the Burgeoise family, was stabbed at the opera by some man who had an enmity against him—he was stabbed in the back, and Dupuytren was called in to see him, and found the prince was dying from oppression of the lung occasioned by the loss of blood; the lung cavity was filling up and the lung being compressed. He immediately placed large cups at the wound and cupped him at the place where the knife entered, drawing away the blood and thus relieving the lung. This relieved the patient temporarily, although he died two or three days later from collapse due to loss of blood. This happy idea of applying cups made Dupuytren celebrated. That is the only point I would suggest in the treatment of such a case—that the patient be cupped at the wound.

I remember a case of a negro who was stabbed in the back, and I could hear the air rushing in through the hole in his lung. He was laid on his side and the blood allowed to escape. A compression bandage was used and the patient recovered.

Dr. Edward Borck.—Mr. President, you invited me to say something in answer to Dr. Hulbert's question. It is impossible to say what one would have done in that case, but I can relate a case in my own experience and state what I have done.

Three weeks ago to-morrow a boy was brought to my office who had been stabbed with a bowie knife, the blade entering between the fifth and sixth ribs and penetrating the lung. There was great hemorrhage, but it had ceased by the time he reached my office. In that case I cleaned out the lung, let the bleeding alone, making no attempt to stop it. It was not so extensive that I was afraid he would bleed to death, and I treated the wound as an open one. It was a gash 2½ inches long. I simply cleaned out the coagulated blood and dressed it loosely so there would be an exit for any fluid that might escape.

On the second day he commenced to spit a little blood. I gave him morphine to keep him quiet, and in two weeks the wound healed up and the boy is now well.

We can not say what we would do in a certain case. We treat every case on its own

merits according to circumstances. If it had been a flesh wound I would probably have sewed it up and had healing by first intention, but as the lung was injured I treated it as an open wound.

Dr. Bond.—We would be pleased to hear from Dr. Powers.

Dr. E. M. Powers.—I will simply say that this case is not unique at all, there are quite a number of similar cases on record. Gentlemen will remember the case of Gen. Shields, who sustained a severe injury of the lung and lived many years after. There are quite a number of cases of penetrating wounds of the lung on record in the history of the war of the rebellion. But if I should meet with a case of this character, I should certainly permit the blood to escape from within the chest, if necessary I should introduce a drainage tube to accomplish that purpose, and if that did not suffice I should wash the part out. Of course this case terminated well, and it has that much in its favor, but I would not like to say that it terminated well on account of the treatment.

Dr. J. A. Hornsby.—Perhaps the discussion of stab wounds is somewhat of a digression, but I would like to report a case that came under my observation very recently, in which I have just discharged the patient. The young man received a wound with a pen-knife between the third and the fourth ribs. He bled profusely and was in a faint when I saw him. There was apparently no opening into the lung cavity, the pleural cavity, so I enlarged the cut, tying quite a number of small vessels to prevent any further loss of blood, and the young man recovered consciousness, gained considerable strength presently, and on the second day was in a fairly good condition with the exception of a very marked emphysema which extended to the hip below, the abdominal tissues generally were involved, and the parts about the shoulder joint and even as far down as the elbow were emphysematous. That condition was not alarming, however, and I refused to interfere until the fourth day when I found the patient in a worse condition. His temperature had gone up to 104°, in the evening 104½°. The emphysema was extending also. I had declined to make a closer inspection, until this time, on account of his weakness, but on examining I found a large collection of fluid in the pleural cavity. Attributing the increased temperature to this condition, I opened the cavity and washed it out, using a soft rubber catheter with an ordinary Davidson's syringe, and removed a quantity of sero-sanguinous fluid, perhaps a quart, possibly more, and then washed out the cavity with a bichloride solution. Within six hours after this his temperature was down to about 100° and his pulse was very good, and the young man made a most happy recovery in the course of two weeks. The point to which I desire to call attention is this, that the washing out of the pleural cavity in that case seemed to have about the same effect as does the washing out of the uterus in a woman who has aborted and in which there has been retained blood clots or particles of the placenta. It brought the temperature down at once and created a wonderful change in the condition of the patient.

Dr. H. H. Mudd.—It seems to me that the question asked by Dr. Hulbert is a very pertinent one and very proper in the case, and without attempting to answer it, I should like to consider some of the points in this case.

As a part of an answer to the question, I think we might say that antiseptic surgery in itself, if practiced intelligently, does not necessarily require the surgeon to do everything, it leaves some of the work to nature. I say antiseptic surgery practiced intelligently, because there is a class of antiseptic surgeons who believe that they must do everything that presents itself and leave nothing to nature's work.

I think the treatment as followed by Dr. Newman in the case reported to-night was eminently judicious. In the first place we had here a wound made by a bullet passing through the thoracic wall, and the possibilities are that the hemorrhage did not come from a laceration of the intercostal arteries,

but from the lung tissue itself, the greater part of the hemorrhage probably came from the lung. The pleural cavity, if we accept the doctor's observation for it, was filled with coagulated blood, the lung was collapsed, we had here that condition that had produced the collapse, we had hemorrhage into the cavity, we had a thready pulse and collapse, not because the lung was so much disturbed, but because the patient had suffered with severe hemorrhage. Suppose we attempt to open up the chest cavity and clear it out, what are we doing? Even the coagulated blood there is difficult to dislodge, there is some breaking down of the blood clot, and if we wash it out we add shock to the patient, and possibly in doing that we di rb the clot in the lung tissue and increase th emorrhage in the lung and the patient woul robably die like the celebra-ted case to which Dr. Boisliniere refers, from the shock rather than from the hemorrhage.

What is to be apprehended by allowing the blood clot to remain? We allow it to remain in a clean cavity. The bullet has been cleaned in passing through the clothing and flesh, through the rib perhaps, so that it is an inocuous body. We have as a possible result the plugging up of the torn tissue in the lung so the air does not pass in and mix with the blood clot; the solid portion of the blood clot may be absorbed and adhesions occur, and the lung expand without difficulty or disturbance.

Taking that as a favorable process, we may have a somewhat diverse process; we may have the clot becoming decomposed, and as a result of the decomposition we may have fever. What can we do now? Everything is changed. We have the blood clot softened, disintregrated, ready to wash out, if we open up the cavity the greater part of it escapes with a gush; the rest can be washed out, the cavity cleaned; the temperature subsides and the patient makes a better and more certain recovery than he would if you had disturbed it in the first place.

This question of the treatment of blood-clots is a very important one, as there are many parts and many different tissues in which we may find them and it is not always easy to disturb or dislodge them. Take, for instance, hemorrhage into connective tissue from the rupture of a muscle. There we may have what is called false aneurism. We have an immense blood clot dissecting its way, breaking down some of the tissues; as it passes out it permeates the borders; it makes its own sac; finds its way into the connective tissue and finally finds a limit from the force of the pressure from the blood vessels; that limits the extravasation. Suppose we have a large blood clot there,the blood stops flowing after we reach this point of pressure and we have no further hemorrhage; but if we open up that part and attempt to wash it out, we wash out that portion which is free from the connective tissue. We can not break up that part disseminated in the connective tissue, and we expose the part to matter which may produce decomposition. Perhaps this does not often occur, but it does sometimes. Not only that, but I have more than once attempted to do this—sometimes with success, but again with some dissatisfaction, because we have the blood again breaking into the part and filling it again, and this may not be from the blood vessel originally opened, but from the capillaries in the part. Anyone who has practiced surgery at a time when the surgeons permitted themselves to take time to observe nature practice surgery, when we were willing to let nature make the cures, will recognize the fact that these blood-clots absorb very rapidly. We may take a large blood-clot in the connective tissue of the thigh if you choose; it may be so large as to cut off much of the circulation of the parts, so that for a time it limits the supply of blood not only to the blood clot but to the tissues about the blood clot. Very soon the wall which is formed around the soft portion of the blood clot becomes filled with blood vessels—the wall of the sac is vascularized; then we have the fluid portion taken up and in a few days an enormous clot will be absorbed and disappear with very little constitutional disturbance. If you are going to interfere with such

a blood clot as that, in the majority of cases it is better to wait a few days rather than attempt to do it at once.

I dare say that if Dr. Newman had added to the shock, already existing in his case, by washing out the pleural cavity, he would have precipitated another hemorrhage, which would have carried off the patient, and I think it was good antiseptic surgery to let it alone; and it was paying a proper respect to nature, which is, after all, a very good partner of the antiseptic surgeon.

Dr. Newman.—I will simply say in answer to Dr. Hulbert's question, that the case did not demand any interference at all at the time. I was prepared at all times to cut down and remove the clot if there was any evidence of its breaking down—if there had been a chill, any very high temperature; these did not appear and there was no external hemorrhage whatever which made me suppose, and nally, that it was only the lung which was bleeding. I do not think the man of blood externally.

Another point which I forgot to mention in my report is that the wound was of a valvular character; that is to say the bullet having entered obliquely through the skin and into the chest, it made a valve. Fluid could be foreed out in a measure, but no air could go in. I was satisfied of that. The wound was pretty high up and I did not care to make another wound unless there was some demand for it.

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## SELECTIONS.

### ERUPTIVE DISEASES OF THE TEATS AND UDDERS OF COWS IN RELATION TO SCARLET FEVER IN MAN.

When, in the report of the Medical Officer to the Local Government Board for 1886, the investigations of Mr. Power and Dr. Klein respecting the Hendon cow disease and scarlatina were made public, it was felt that a thorough investigation into diseases of cows ought to be made to test the validity of the conclusions then arrived at. Such an investigation has been undertaken by the Agricultural Department of the Privy Council Office, and its results have been embodied in the report just issued by Professor Brown, C. B. The report opens with a reference to the statement that an eruptive disease of the teats of cows on the late Mr. Panter's farm at Hendon had caused scarlatina among the consumers of milk; that a micro-organism had been found in the ulcers on the cow's teats which was identical with that found in scarlatinal blood, and that inoculation of calves with the micro-organism from either source induced morbid conditions related on the one hand to the Hendon cow disease, and on the other to scarlatina in man. Regret is expressed that Mr. Power did not extend his inquiries to two other farms, which like the Hendon farm, furnished milk to the districts of the scarlantinal outbreaks. The investigation by the Argricultural Department was at first limited to the history of the Derbyshire cows which had introduced the disease into the Hendon herd, and early in 1887 Professor Axe reported the results of this investigation, further details of which are appended to the present report. Owing to the alarm aroused among dairymen by Mr. Power's report, it was at first difficult to get information upon udder disease among dairy cows; and no cases were recorded until the autumn of 1887, since when abundant material has been forthcoming. It was soon evident that among the several eruptive diseases of the teats and udders of cows, long known to veterinary surgeons and stock-owners, there is a very common one usually called cow-pox by dairymen. This affection bears no resemblance to the effects of vaccination in a child's arm, and in all respects is similar to the affection described by Mr. Power, Dr. Klein and Dr. Cameron as the Hendon cow disease. Special investigations were made by Professors Crookshank and McFadyean, and a number of veterinary experts were employed to give information upon the outbreaks of udder disease reported. Professor Brown deals first with the practical

and then with the scientific results of these inquiries, all of which are embodied in an appendix to the report. Professor Axe found that the disease which had been introduced into the Hendon farm from the infected Derby herd was also introduced into other herds, the cow-pox not being regarded by dairymen as of any moment. Moreover, Professor Axe found out that at the time of the Hendon outbroak there was a possible source of infection of milk at this farm with scarlatinal poison in the existence of cases of scarlatina in the mead, 600 yards from Mr. Panter's sheds, where six out of the fourteen men employed by Mr. Panter resided. In 1887-88 Mt. Villar reported seven outbreaks of udder disease in Middlesex, one of these being at Hendon, on the same farm as that investigated by Mr. Powers in 1885, and declared by Professor Brown to have precisely the same characters as the "Hendon cow disease." Like the first outbreak, this also was introduced by cows purchased in the Derby market. Several cases were kept under observation, and it was proved that the affection was communicable to the hands of milkers and to the nose and mouth of the calves sucking the diseased cows, but consumers of the milk of these animals did not suffer any injury. Other outbreaks were reported from Lanarkshire, Lincolnshire, Somerset, and Wiltshire; but in none was scarlatina found to exist among the consumers of the milk. Professor McFadyean described a cow disease at Edinburgh coincident with an outbreak of sore throat among the consumers of the milk; but although this infection presented different characters from those of the Hendon disease, yet the morbid appearances in the organs of calves submitted to inoculation were very similar to those obtained by Dr. Klein. Mr. Duguid inspected more than 600 of the metropolitan cowsheds, containing more than 9000 cows, without obtaining a single case of udder disease, although scarlatina was very prevalent in London at the time. The travelling inspectors also made an extended inquiry all over the country without being able to trace any connection between the prevalence of scarlatina and eruptive udder disease.

Professor Brown states that he has been unable to discover any special symptom or any microscopical character which could enable him to distinguish between the udder disease in Middlesex, Buck, and Wilt, and that of the Hendon cows. He sums up the facts bearing on the practical aspect thus:—"1. The Hendon cow disease of 1885-86 was not an isolated outbreak confined to Mr. Panter's farm, but was going on at the same time with several other outbreaks, all of which were due to the introduction of cows from the Derby dealer's herd. 2. Searlatina was coincident with the distribution of milk from the Hendon cows only, while the consumers of milk from the diseased cows in the other dairies do not appear to have suffered. 3. There was a possible source of infection of the milk by human agency, as scarlatina existed in the mead, between which and Mr. Panter's sheds constant communication was kept up. 4. Scarlatina infected districts which were supplied from the Hendon dairy had also supplies of milk from two other farms which were not visited in the course of the inquiry. 5. A cow disease identical in general character with the Hendon cow disease of 1885-86, according to the testimony of experienced observers, who saw the original Hendon outbreak, appeared in 1887.88 at Hendon and elsewhere, and in no case was scarlatina coincident. This disease was carefully watched day by day for several months, and in Mr. Villar's report the characters of the udder disease, the skin eruption and the constitutional derangement which occasionally accompanied the local disease are accurately described. A comparison of this description with that of the original Hendon disease as given by Mr. Power, Dr. Klein, and Dr. Cameron will leave little room for doubt that all description are applicable to the same disease, and if scarlatina had been coincident with the cow disease of 1887-88 the identity of the affection with the Hendon out braak of 1885-86 would have never been questioned."

Professors Crookshank and McFadyean

were requested to investigate the subject scientifically. The latter failed to produce scarlatina in cattle by inoculation with the blood of scarlatinal patients and causing the cattle to drink water thickened with the desquamated cuticle. But by inoculating with a micro-organism obtained from scarlatinal blood, morbid changes were produced apparently similar to those obtained by Dr. Klein in his inoculations of calves by streptococcus obtained from scarlatinal blood or from the sore teats of the Hendon cows. Then Dr.Edington got like results by inoculation with a bacillus obtained from scarlitinal blood, Professor Crookshank by inoculating with matter from ulcers on the teats of Wiltshire cows, and Professor McFadyean by employing organisms from the sores on the teats of Edinburgh cows. Professor Crookshank harmonizes these results by considering Klein "streptococcus scarlatinæ" to be a septic organism—streptococccus pyogenes—and gives in his report a full exposition of the subject. Professor Brown goes on to quote examples of scarlatinal outbreaks when milk was suspected with especial reference to the difficulty in determining the source of infection, showing how the exclusion of ordinary sources leads to the conclusion that the disease must have arisen in the cow. This leaves the subject in a very unsettled state, and makes the existence of any cow disease in dairy sheds coincident with outbreaks of scarlatina or diphtheria to be held as damaging evidence. But, as a matter of fact, the theory of cow infection rests mainly on the single outbreak at Hendon in 1885-86; and medical officers of health should exercise great caution before coming to a like conclusion. A paper by Dr. Hime, of Bradford appended to this report is of considerable value, since owing to the compulsory notification of infectious diseases in that town he was always enabled to trace the history of outbreaks of fever and to ascertain their relation to milk supply; his conclusion being that the danger of milk infection has been much exaggerated. Professor Brown concludes his report by reference to the "contemptuous disregard of the most elementary sanitary precautions" with which milk is often collected both in country and town, whereby we trust the dairy interest will take warning." The report is full of interest, and is supplemented by thirteen appendices, those of Professor Crookshank being abundantly illustrated by microscopical plates.—*London Lancet.*

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## WAS IT METASTATIC RHEUMATIC PERITONITIS?

BY CHARLES W. PACKARD, M. D., NEW YORK.

Without entering upon the disputed question as to whether or not there is such a condition as idiopathic peritonitis, I present the following history of a case that, during part of its course, seemed to compel a diagnosis of peritonitis from some unexplained cause, and to fairly raise the question of the expediency of an explorative laparotomy:

On the evening of November 19 I was called to see R. B——, a boy, twelve years of age, who had for two days been suffering from severe abdominal pain, with frequent vomiting, that the usual household remedies had failed to relieve. I learned that for several years he had been subject to occasional attacks of chorea of a mild grade, for which arsenic had been given him, and that at the time of his present seizure he had been taking ten drops of Fowler's solution three times a day. At first it was thought possible that his condition might be due to arsenical poisoning, but this view was dispelled in the after-history of the case. The existence of former rheumatism was denied, although subsequent inquiries revealed the fact that he had often complained of lameness after play, and of such tenderness in the soles of his feet as to make him limp in walking. He had been to school as usual on Monday, November 19th, but on coming home was taken with a chill, followed by vomiting and severe pain in the right iliac region, that soon became general over the whole abdomen, although as the focal point of the pain he constantly referred to the right iliac region

throughout the course of his disease. There had been three loose movements of the bowels on that day, and a daily natural movement for several preceding days. Upon examination the abdomen was found retracted and of board-like hardness, the recti muscles standing out tense and prominent, and the whole abdomen so sensitive to touch that only the most superficial percussion and palpation could be attempted. There was an equal resonance on light percussion over the whole abdomen, while the muscular tension seemed greater over the right iliac region than elsewhere. The decubitus was dorsal; the knees drawn up; respiration thoracic, shallow, and thirty in the minute. Temperature 102°, pulse 120. The stomach instantly rejected food or drink, and even fragments of pounded ice were as often vomited as retained. Urine about normal in amount, and passed without pain. The tongue was coated, expression of face anxious. There was a slight systolic endocardiac murmur, to account for which I could get no history of antecedent rheumatism. Ordered suppositories of morphine and belladonna, and to apply oiled silk and cotton wadding sprinkled with ol. turpentine to abdomen.

November 22nd.—The general condition of the patient is about the same, except that the pain has lessened under the influence of the morphine. Patient has had no sleep. The abdomen remains hard, and is beginning to swell. The stomach retains nothing, but the vomiting is less frequent, and nothing is brought up but a mouthful or two of colorless and watery mucus that seems to be regurgitated rather than vomited. The pain is still constant, and severe in paroxysms, which are at times accompanied by expulsion of a little flatus. Bowels not moved. Temperature 101½°, pulse 118, respiration 34 in the minute.

To take ten grains quinine in suppository, in addition to morphine and belladonna before ordered.

November 23.—Passed another sleepless night. Tympanites much increased. Liver dulness pushed up. Stomach rejects everything, and there is still occasional vomiting of colorless mucus. Temperature 101° F., pulse 118, respiration 38.

November 24, morning.—Symptoms unchanged. A little milk and lime-water has been retained. Bowels moved, motion formed, and passed with flatus. About a pint of high-colored urine passed during last twenty-four hours, and without pain. Still no sleep. Temperature 102½° F., pulse 116, respiration 40.

November 24, evening.—Aspect of patient is worse. Tympanites increased. Skin of abdomen shining and tense, and showing enlarged veins. As patient lies on his back, the level of abdominal wall is crowned up considerably above the chest level. The respiration is shallow, costal, and forty in the minute. Pulse 130, temperature 103½° F. Abdominal pain is general, but the greatest in right iliac region, which he guards against any touch. He has for several days past been taking morphine, $^1/_6$ grain, with balladonna, ⅛ grain, in suppository, every two or three hours, as the pain might indicate, and this amount has kept the pupils moderately contracted and the pain within tolerable limits, but he has had no sleep. Ordered morphine to be increased to ¼ grain, to be used as before.

Up to this point the case has presented some favorable aspects. The occasional movement of the bowels; the passing of flatus; the free secretion of urine; the absence of green vomit, and of signs of profound nervous shock, such as we expect to find in peritonitis resulting from perforations. The pulse, too, has shown less tension than is usual in this disease.

On the other hand, there is a distinct history of chill, followed by severe and persistent pain in a most suspicious locality—especially in a child—and rapidly spreading from this point until the whole peritoneal area is involved; persistent vomiting and fever, steadily increasing tympanites, going on until the belly has reached a high stage of distention; and now, after five days of this history, there comes a decided increase in the

temperature, the pulse grows more frequent, the face more anxious, and the general expression of the disease decidedly worse.

Thus far the tenderness and rigidity of the abdominal wall have been so great as to render deep percussion or palpation impossible, and it has not been determined whether there is a small typhlitic tumor or not. Considering the history of the case, it seems not unlikely that the inflammatory process now going on began as a typhlitis, and the patient's condition is evidently going "from bad to worse."

Is there peritonitis? and if so, is the patient's condition such as to justify an exploratative laparotomy?

The first question could be answered in the affirmative with little hesitation, but it was deemed safer for the patient to take the possible risk of waiting too long, rather than to invoke the certain danger involved in the surgical operation. The question of operation was therefore postponed.

November 25.—An early visit found the boy complaining of pain in the knee-joints, which during the night had become inflamed with acute rheumatism. The pain in the belly had disappeared so far as to give him no trouble unless he moved, vomiting had stopped, the countenance was better, and the whole aspect of the case had changed as if by magic. The slight heart murmur heard at my first visit had become much intensified by a fresh endocarditis.

Under the administration of salicylate of soda the new rheumatic symptoms quickly disappeared, and in a few days the boy felt well enough to leave his room.

Within twenty-four hours after the metastasis from the abdomen to the joints and heart, the tympanites had largely abated, and the abdomen had become so tolerant of pressure, and so relaxed, that for the first time it was possible to make a thorough exploration. There was no typhlitic tumor, and no fluid discoverable in the peritoneal cavity. From the rapid disappearance of all symptoms, it would seem doubtful if there was an exudate of any kind upon the peritoneum, such, for instance, as we find in rheumatic pericarditis.

I have been unable to find any description of the pathological changes to be found in rheumatic peritonitis, perhaps because there are no fatal cases; and yet the rheumatic poison so constantly elects tissues analogous in structure to the peritoneum, and at times works so great havoc among them, as in pericarditis, that it would seem possible enough to meet with a purely rheumatic and fatal peritonitis.—*Med. Rec.*

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## ARTHRECTOMY *VS.* EXCISION OF THE KNEE.

In a paper read before the Harveian Society (*London Lancet*) Mr. Herbert W. Page said:

What, then, is arthrectomy, and what do we seek to obtain by it? Which are the cases suitable for it? What are its advantages? What are its results?

First of all let me say that, in considering the question of the best method of treating diseases of joints, we cannot ignore, for very much depends upon, the social position of the patient. The child of the well-to-do householder, for example, is in a very different, is in a very much better, position than the child of the poor laborer or artisan. The beginnings of the disease are more surely recognized, treatment is begun earlier and is more rigorously carried out, and his surrouudings are such that all that fresh air and good food can do for him is brought to bear upon his general condition of health. The synovitis which is the result of some trifling injury—a sprain it may be—has thus the opportunity of complete subsidence, the tissues of the joint are less prone to pass into that morbid condition in which the tubercle bacillus finds a suitable breeding-ground and home, and none of those later results arise with which we are familiar, and which, in the main, result from neglected and unresolved inflammatory processes. All of us must have seen cases in which, under these conditions, complete recovery has ensued from absolute rest, local pressure, good feeding, and fresh air; and no one will, I think, deny that in this mode of

treating joint diseases a great stride forwards has been made since Thomas introduced the splints which always will be known by his name. Not so with the poor; and thus it happens that our hospitals contain cases which are but rarely seen amongst the wealthier classes; and too often the patient comes to us when there is no whole part in the joint; when the synovial membrane is so structurally changed that resolution or recovery of its natural condition is no longer possible; when the cartilages have been eroded, and the bone has been seriously invaded by the disease; when possibly there is much deformity; and last, but by no means of least importance in the clinical picture now presented, when the general health has been seriously undermined. In cases of this kind no surgeon would hesitate for a moment to use the knife, even though it were necessary to amputate the limb. But there are conditions less pronounced than those which have been named, when treatment by prolonged rest is either unavailable or has been already tried and found wanting, and in which, by a much less formidable operation than the old classical excision, he may succeed in removing and arresting the processes of disease, and in preventing the future onset of such widespread changes. He seeks to do this by the operation of arthrectomy or erasion, and we may answer the question what it is by saying that it differs from excision in this, that it is content with removing diseased structures alone, with removing no more, but at the same time no less, than is absolutely necessary to clear away morbid tissues, and falls very short (though at the same time it may be said to compass more than) the older operation, which in the main, consisted in slicing off pieces of femur and tibia, in order that new and presumably healthy surfaces of these bones might be brought into apposition, and ankylosis in the end result. Admitting altogether the disadvantages under which that operation labored in the pre-aseptic days, it is no wonder that when portions, it might be, of diseased synovial membrane were left behind there arose suppuration, interference with healing, the subsequent necessity of amputation, and grave risks of septicemia and pyemia when the open cancellous tissue of the bones was subjected to the malign influence of neighboring and unhealthy discharges. In arthrectomy, however, there is no such risk, for the diseased tissue, whatever it may be, is all taken away, and in no case is there any occasion for encroaching upon or removing, as the old incision removed, the growing lines of the bones. And in acting thus, let us consider for a moment what it is that we wish to obtain. We wish by a removal of disease, no matter in what structure it may lie, to place the parts of, about, and around the knee in a condition of health, so that reparative processes may begin, that the joint may either be preserved or that sound ankylosis may take place, that the growth of the limb shall not be arrested, and that, rid of a grave source of constitutional disturbance and of future danger, the general health may be established and improved.

I do not intend to enter into the large and interesting question of the tubercular nature of these joint diseases nor the part which they play in tubercular generalization, for the subject has been dealt with at length in the lectures which were given in the summer by my friend Mr. Barker at the Royal College of Surgeons. Therein will be found the strongest arguments, I will not say for a belief that the tubercle bacillus is the actual cause of the mischief which we seek to lessen and remove, but for early operative interference in the class of cases which we are here considering. For it comes to much the same thing whether the tubercle bacillus be already there or whether it be not, the diseased structures of the joint are the very places where it likes to make a lodgment. If it is already there, the sooner we evict it the better; if it is not already there, the sooner the better that we get rid of a tissue whose condition forms a standing enticement for this noxious organism to come and occupy that tissue as its own. Do not let it be thought that I advocate the indiscriminate arthrectomy of every diseased knee joint that comes before

us. There are cases, of course, chiefly those of recent origin and with a clear history of injury, where no one would think of an operation until perfect rest had been enjoined and carried out for a reasonable time; but given a case where we have a history of prolonged swelling and pain in the joint, with increasing deformity and a history that rest has been of no service, where, moreover, the synovial membrane is obviously thickened, and it may be here and there pulpy and soft, presenting that peculiar feel which tells at once that the joint enlargement is due to something other than a collection of fluid within, and that, as so often is the case, the inside is probably in a worse condition than the outside aspect would seem to indicate, then I believe that the time for operation has arrived. The same also must be said with no loss force of those cases where persistent local pain and tenderness lead to something more than a suspicion that there is a focus of disease in the epiphysis of either tibia or femur. The fear of operating need never deter us from examining the inside of the joint. All the better if the disease to be removed is but limited in extent. The operation itself can do no harm.

I do not propose here to give an account of each and every step of the operation; nor, indeed, does it seem to me possible to lay down any precise laws as to this or that line of incision which ought to be followed, or this or that method of dealing with the bleeding vessels or of obtaining union by the first intention. Much must depend on the case itself; much also on the choice, will, and experience of the surgeon; more perhaps on the result which it is hoped to obtain—ankylosis or a movable joint. The great thing is to expose the joint thoroughly so that we may actually see how with scissors,scalpal,gouge, or raspatory to extirpate every particle of disease, whether in synovial membrane, semilunar cartilage, inter-articular ligament, or the bone itself. Personally I believe that this can be done by the old horseshoe incision, which curves below the patella; but some surgeons have found a difficulty thereby in reaching the prouch of synovial membrane beneath the quadiceps. To meet this, the joint has been opened by a transverse incision and division of the patella; by a longitudinal incision, passing through the center of the patella, which can be sutured together afterward (Riedinger); and Mr. Clutton has operated by a "long curved incision through the extensor tendon just above the patella, and prolonged downward on each side to the line of articulation." Of one thing I feel at present convinced—that in cases where there has been extensive disease, and much tissue therefore has been removed, we shall do wisely not to hope for, or attempt by any after treatment to obtain, a movable articulation. Ankylosis in the straght position is the thing to be aimed at, and it is therefore unnecessary, in my judgment, to be particlar about saving bits of the crucial ligaments which may chance to be healthy, or to trouble about resuture of the ligamentum patellæ. These structures are not, I think, of much practical use afterward, and the effort to save them and reunite them must add to the time which the operation takes. At best the operation is a long one, and the saving of time is of some moment to the patient. Moreover, we are not going to slice away portions of the bones; diseased parts only will be gouged out; and the tibia and femur lying thereafter in close apposition, there is less of that tendency to displacement which was so troublesome after excisions when a large gap was made in the place of the resected joint. The ends of the bones ought to fit closely and accurately together, and the only exception to the statement that diseased bone is alone to be removed is the necessity that may be found, in those cases where there has been much displacement, of taking away some small piece of one or both condyles, in order that the tibia and femur may come together in a straight line. There ought, at any rate, to be no occasion for pinning the bones together with ivory or steel. I should like to hear what surgeons have to say concerning this, but I am more anxious to know what has been their experience in those cases where the dis-

ease has been but small in extent, and where the attempt has been made to obtain a movable joint. English surgons have not hitherto said much on this point, and the best information to be obtained on the subject is in a recent paper by Sendler. He records fifteen operations on thirteen patients, and in the last three of them he seems to have obtained five more or less movable limbs. He opened the joint by long lateral incisions, as recommended by Volkmann and Koenig, without completion of the horseshoe incision or division of the ligamentum patellæ. One, a child of two years and a half, had the synovial membrane dissected away, and the joint thoroughly washed out. Recovery took place with "perfectly normal movement." The second case was that of a patient aged twenty-two, from whose left knee thee synovial membrane was dissected out, and subseqently in three weeks a portion of the head of the tibia was gouged away, and from whose right knee the synovial membrane also was dissected at a latter date. Ultimately there was some movement in both joints, and the man was able to walk well. The last case is a child of eight, who was discharged from the hospital with a movable joint—extension normal, and flexion nearly so—after dissection of the synovial membrane from the left knee, and from whose right knee four months afterward the synovial membrane and a piece of the internal condyle were removed. In this case the ultimate movement is spoken of as having been nearly normal. The gait, moreover, was natural. Sendler says that in all these cases movement was begun before healing was sound. I would ask, What risk is there in this? By this method of lateral incision the structures of the extension apparatus are of course left intact, but the difficulty of examining the whole cavity of the joint by these incisions must be great, and there must be risk of leaving disease behind. This is probably what happened in the case where a second operation had to be undertaken on the tibia in three weeks. To meet this objection, and with the deliberate intention of trying to obtain movement afterward, Tilling opens the joint by the horseshoe incision; but instead of dividing the ligamentum patellæ he chisels off that part of the tibia to which it is attached, so that when the disease has been erased this portion of the bone may be again united by pins to the tibia, and the extension apparatus may be preserved intact. Has anyone had personal experience of this method? It does not seem to me to have been very satisfactory in the five cases which Tilling himself records this year; for of the first, a boy of twelve, we read that five months after the arthrectoomy no more movement could be made because of pain; of the second, a man thirty-four, that all hope of movement had to be given up because of the great extent of the arthrectomy; of the third case, a girl of eighteen, that slight movement in the direction of flexion was possible; of the fourth, a girl of eight, that after a second erasion she was going on crutches, nothing being said as to movement; and of his last case, a boy of seven, that at the time of a second scraping, and when under an anesthetic, the knee could be bent to a right angle. This is clearly not a very promising record as to movement after an operation specially designed, be it remembered, that movement may be secured. Nor do I gather that in the nine cases recently recorded by Mr. Bilton Pollard, there is much that is promising in this matter, although of one of them, a child of three, from whose knee the synovial membrane alone was removed, the cartilages being left intact, we read that "the joint was sound, and movement could be made without pain." We need further information upon this point, and although I feel that with my present knowledge I may perhaps be altogether wrong, yet I am inclined to think that good firm ankylosis is the thing for which we ought to strive. There surely must be some risk in commencing passive movement before the parts are soundly healed, and there is this further risk, it seems to me, that when the operation is undertaken with the hope and design of obtaining a movable knee afterward, the joint may not be as thoroughly inspected as it ought to be, and some diseased foci may be

left behind. The real purpose of the operation has not then been attained. Moreover, the movement to be gained can at the best be only slight, and it is very questionable whether a knee that is soundly ankylosed in a straight position does not provide a limb more practically useful than one in which at the middle of it there is a possibility of bending the limb a few degrees. Much of course depends upon the extent of the operation in each case. It is clear that we are more likely to obtain a movable joint if the disease be limited, and therefore that if this be our aim the operation must be undertaken early. I know the hesitation there will be to operate as early as we ought, and it will come to pass that in the great majority of our cases the thing at which we shall have to aim, as the best of all possible results, will be sound ankylosis in the straight position. And in the after-treatment we have to take special care to keep the limb fixed in this straight position, and we must not relax the use of splints or plaster of Paris until the ankylosis is secure. By so doing we may effectively prevent flexion. One of the cases here to-night will show how carelessness as to the splint when the child was at home led to an accidental flexion of a limb which would otherwise have been perfectly straight; and in another, I am sorry to say, the limb is not now as staight as it ought to be because the splint was given up too early. The operation, however, has in it yet other advantages; it has in it something which is not less important than the securing of a useful limb, and that is the removal of all traces of disease, and of lessening the chances of generalization of the tubercle poison. No one who has had experience of arthrectomy of the knee can have failed to notice how great has very often been the improvement in the general health when the diseased structures have been removed—not solely, I think, because there is an end of the pain and lameness and incapacity. And if these results can be brought about by an operation which in itself appears to be tolerably free from danger, and which at the same time restores to the patient a useful limb which shall grow with the growth of the body and keep pace with its fellow, then we may claim that that operation has, or ought to have, a secure position in surgery, and that it is one which may be advised with safety, and at an early period, in a large number of cases.

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## NEURASTHENIA—ITS DIFFERENTIATION AND TREATMENT.

Dr. L. C. Gray read a paper on this subject. (See vol. xlviii, page 421.)

Dr. M. E. Brill agreed with the views taken by the reader, and considered the classification excellent. He remarked that the reason why Germans had said that they did not find neurasthenia in their own country to any such extent as it existed in America was that Dr. Beard had placed under the term all the similar nervous disturbances due to reflex influence from other disordered functions, and the mental disorders, including insanity, which Germans recognized, but under other names. The fact that often a typical neurasthenia appeared for a short time with diarrhea or other wasting diseases showed to him how easily general symptoms in the nervous system arose.

Dr. E. C. Reeves, of St. Paul, Minn., spoke in praise of the classification made by Dr. Gray and its simplicity. He thought the well-known maxim that neurologists should be good clinicians should read that they should be good diagnosticians as well. A large amount of the practice in the West had to be done by men without much training in diagnosis, mistakes in which were there not so discreditable as in the East. Thus he had been called in consultation to see a patient suffering from vomiting, headache and aphasia, which were supposed to be due to neurasthenia, apoplexy not having been thought of. In another instance the speaker had made a diagnosis of neurasthenia in the case of a girl who had been slowly wasting away. Before her death, however, there had been a general agreement of physicians that a large malignant tumor overlay the thoracic duct.

The autopsy showed that this tumor was merely an unusual forward curvature of the lumbar vertebræ; and no cause appeared. The lithemic state had given him much trouble until he had learned to recognize and treat it accordingly.

In one point his experience differed from Dr. Gray's. After railroad accidents he had quite commonly found a condition of disordered nervous action, resulting from the jar and internal concussion, which he believed due to a real molecular disturbance, and not e that was remedied at once by the awarding of damages. These patients presented disturbance of circulation, depression, mental confusion, exaggeration of reflexes, and liability to be easily tired, making a real neurasthenia, and one which sometimes went on to nervous degeneration.

In his treatment of neurasthenic cases he assumed a malnutrition of the nervous centers, and had succeeded best with measures directed to improving nervous nutrition. In the cases with vertigo and fullness of blood in the head he had used ergot and bromides with success. Where he found spinal disorder of nutrition, galvanism of the spine had given good results in his hands. He had obtained also very good general effects from an agent which physicians in New York seemed to attach little value to, and that was static electricity. It might be that psychical influence was at the bottom of it, and that there was no tonic influence as there seemed to him to be. If the effect was a purely psychical one, like that of hypnotism, even then it was a real aid.

Dr. W. R. Birdsall remarked that he had always regarded the term neurasthenia with suspicion. He believed such a condition might exist, but always felt ashamed of a diagnosis going no further than that word; at least he always recognized that it was insufficient. He believed there was a neurasthenic element in disease, but when we tried to apply the term to a group of symptoms it did not in practice give satisfaction. Nervous symptoms were always prominent, in disease and out of disease. Thus in any community the persons forming it could readily be classified as those who had stable and those who had unstable nerves. Inheritance explained many cases of neurasthenia, doubtless; local and temporary causes explained many more. The lithemic condition he believed a prolific cause; overwork and bad nutrition covered other classes. When we came to study insanity, the degenerative types, paranoia and the like, taught us that many cases of melancholia were based on a low grade of structure and nutrition of the nervous system which came by inheritance.

As to treatment, he thought it important to recognize that it was often not enough to remove the abuse or the local disorder in the nose, eye, or digestive tract, which might at first seem the sole cause, for the neurasthenic condition, whether inherited or acquired, meant an unstable nervous system. Even with the exciting cause or causes remedied, we must take the general state into account, or, after a little, if he had called himself well and lived like those about him and without reference to his neurotic constitution, the patient would be sick again.

He thought Dr. Gray's classification of the condition according to cause—whether a reflex disturbance, the lithemic state, or malnutrition—at least a convenient one. What he meant by his simple form he had not understood. He seconded all that Dr. Gray had said about the lithemic form. He also believed that complete rest and forced feeding were indicated in certain cases, but that at the same time there was a large class who needed increased activity, and that of a sort to stimulate respiration, as walking on pavements would not do. For these, mountain climbing, rowing, or other outdoor sport, undertaken very gently at first, of course, was indicated to develop the arms, chest, and breathing power, to quicken tissue changes, and especially to give pleasant mental occupation. He believed the lithemic state particularly needed this diversion of the thoughts, usually turned completely inward and hypochondriacal, and good company was one of the most important aids in this direction.

He thought neither inheritance nor overwork caused as much neurasthenia as worry or other emotional disturbances, and that sexual excesses, natural or unnatural, explained a very large number of cases by making the whole nervous system unstable, the circulation uneven, and digestion imperfect. He always looked carefully in this direction, judging by sensitiveness of the eye to light, moisture of the palms and the feet, and a poor cutaneous circulation—all resulting as they did from deficient heart action, and that from deranged nervous centers.

Dr. W. H. Thomson remarked that he thought the only good use to make of the term neurasthenia was for either quieting or interesting patients, pronouncing it slowly, and adding that it was not fatal. Otherwise he abominated the word as being second only to the word "tonic" in the looseness of its application, the latter being applied indifferently to bitter drugs, strychnine, electricity, cod-liver oil, cold water, sea voyages, and horseback riding. It led to more poor practice than "anemia" as a diagnosis. He constantly had cases, however, which he was forced to recognize as "neurasthenia," because he could not find the real disease. He always had four questions to put in his mind, besides that of nervous functional debility. They related to the possibility of virtual starvation, of overstrain, of drain on the system, and of self-poisoning. Virtual starvation explained many cases among women, where coffee and a piece of bread constituted the breakfast, a midday meal was taken still deficient in amount, though of fair quality, but at supper a piece of bread again, tea, and preserves or cake. These women might not be thin or pale, but, nevertheless, had neurasthenic symptoms, because food enough was not taken to support the functions of the body. These recovered by compulsory feeding, combined with rest and attention to circulation and respiration—the Weir Mitchell plan.

The overstrained were usually the overworried, and often showed signs of deficient sleep, such as running on one idea too long. Here he tried to feed as well as possible, and changed the surroundings completely. Drains on the system were often the causes, and must be detected; but he believed the most common cause of all was self-poisoning. In a number of instances in his experience severe mental and neurotic disturbances had yielded to a few doses of bismuth, calumba, and naphthaline, or, in a word, intestinal antisepsis.

Some years ago diseases of the thorax had engrossed the attention of physicians, afterward diseases of the kidney had done the same, and quite lately nervous diseases had been prominent; but he thought we were now on the eve of returning to the ideas of the medicine of a former century, when the bowels were made the prime seat of all disorders of a general sort. Here was the great laboratory of the blood. Ferments were always present here, even in health, whose poisonous products were thrown out at the kidney Nothing was more apt to occur than that unnatural products should arise which the kidney did not easily throw out, or that the antiseptic elements normally present in the bowel should be unequal to the amount of fecal matter constantly tending to undergo internal change into poisonous matters. A very significant symptom presented when the urine lost its color, as we knew that the source of the latter was in the intestine. Uremia the speaker had found not to be uremia at all, but a prolonged self-infection by other elements than urea of its direct antecedents, and due to loss of the natural antiseptics. He believed that this was the true cause of lithemia in most cases. The pulse and the urine mainly guided him to a detection of this state. The pulse of starvation, overstrain, or drain on the system was weak and noticeably compressible. But in the lithemic state it was just the opposite, especially immediately after meals, when high arterial tension was developed. In the three former conditions we had a low specific gravity, with neutral or even alkaline reaction, while the lithemic state often had high specific gravity and acid reaction or many urates.

As to treatment, he believed there was on-

ly one cure or means of giving lasting help, and that was to have the patient camp out in the woods or mountains, sleeping in a tent and changing all his previous conditions and occupations in a radical manner. Neurasthenia was not found among nomadic tribes, nor were gout, inflammation of mucous membranes, and increase of connective tissue, the presence of which in civilized races meant deficient breathing and oxidation of tissue.

Dr. A. Jacobi wished to add to Dr. Gray's mention of the German idea which made neurasthenia an American disease the fact that they had also once called infantile paralysis and hay fever distinctively American diseases. He then mentioned a number of the older German authorities who gave good accounts of all these nervous states now ascribed to Americans, under somewhat vague names, such as neurosis, but showing a perfect comprehension of their essential features. Dr. Beard had hit on a good name for a disease which had very variable aspects. It was the inevitable tendency of progressive medicine to drop names which did not represent our diagnosis of diseased conditions—such as paralysis, dropsy, and apoplexy. No complex of symptoms should be honored with a name, as if it could be called a disease *per se.* Neurasthenia we elevated to such a place only when we had excluded every possible primary disorder to which it might be secondary. But the difficulty arose from the fact that it was a result of so many other diseases. Mere weakness of the nerves could not constitute neurasthenia, or every convalescent would be in that state. We had been told that it was a chronic malnutrition of the nerves. It was hard to believe this could exist as a special condition so as to need a name. We constantly saw such a general deficiency of nutrition and vital activity coming by inheritence and showing itself in babyhood, and childhood, and in the man or woman. They simply did not have nerve power, and what should we call it in these cases? In like manner we had cases where chlorosis appeared early and persisted, no recovery from which was possible. Congenital smallness of the arteries determining deficient nourishment of all functions was another such organic defect, more than disease. He believed that in every such case we needed to look to subjacent conditions, and the sooner we got rid of the word "neurasthenia" the better it would be for our paihology.

In regard to Dr. Gray's treatment, he thought the doses of cascara sagrada and of nitro-hydrochloric acid too large, and that the latter ought to be of more use some time after meals, when the lactic-acid stage of digestion was past. The fatty acids usually present in the stomach previous to meals needed alkalies more than acids.

Dr. A. D. Rockwell believed in the existence of neurasthenia as much as in that of malarial poisoning as a disease, and thought the term had a use, although it had been abused. He thought nervous exhaustion and lithemia the most important causes. When he saw patients with cold hands and feet, irritability, and a peculiar depression shown in the expression, he looked to a toxic state arising from a bad digestion as at the root of the trouble. He thought people varied much as to what diet would insure perfect digestion, especially with a reference to the amount of meat; and self-study was needed. In this sense he believed that every one at forty became either a fool or a physician—to himself.

Dr. Simon Baruch believed in the existence of the disease as such. He believed the aim in treatment should be to bring on more rapid tissue changes. He employed to this end mild purgatives, mechanical and thermic irritations of the skin, and especially the cold douche or plunge taken in the morning. He always made it short enough to insure full reaction, which he aided by rough towels and warm clothing.

Dr. E. D. Fisher approved of the term as conveniently covering a number of irregular symptoms. As we came to understand the nervous system better it would probably be discarded. He advocated the use of nitro-hydrochloric acid before meals, which he had found unequaled for improving the appetite and restoring nervous tone.

Dr. Gray said that his object had been to call out opinions. In regard to the question of neurasthenia being itself a disease instead of a symptom of one, he thought if we attempted to fill the mind with all the rarely observed but possible diseases to which a neurasthenia was secondary we should miss recognizing many veritable cases of primary neurasthenia where no other morbid condition was present, and which recovered more or less quickly. Such a disturbance we called functional or simple. While there was undoubtedly an anatomical change in the cellular elements, it was not visible to us, and was temporary. As to the use of nitro-hydrochloric acid before meals, he had used it so for ten years, and had obtained more improvement than followed the giving of any other drug. The clinical results outweighed any *a priori* considerations with respect to giving it before or after meals. He knew of three cases of neurasthenia which had ended in death. Autopsies had been made in two of them and no visible lesions found.—*N. Y. Med. Jour.*

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## ANTISEPTIC MIDWIFERY AS PRACTISED IN THE PHILADELPHIA LYING-IN CHARITY.

Y CHARLES MEIGS WILSON, SURGEON IN CHARGE.

Every patient upon entering the hospital is made to take a bath, the clothing is disinfected and stored away in an isolated room prepared for that purpose. She is then given a suit of hospital clothing, which she wears until the time that active labor pains commence. While in the waiting ward, pending the time of her confinement, her bed and clothing are changed twice a week, and she is compelled to bathe in a bath-tub twice a week. As soon as labor sets in the patient is given a hot bath at a temperature of about 90° F., and sent to the confinement room, in an isolated portion of the building (which is always aired in the intervals between the confinements and in which everything is carefully changed after every confinement). She is then given a vaginal douche of corrosive sublimate of 1-2000 solution. She is not kept in bed, or indeed allowed to get in bed, until the first stage of labor is about to be completed. Upon rupture of the membranes she is given a second vaginal douche of 1-2000 corrosive sublimate solution.

Two students, two nurses, the resident physician and the attending physician are the only persons allowed in the confinement-room. The students are obliged to sign a book stating that they have not been in a dissecting-room or in contact with a septic case for at least 24 hours. The resident physician alone examines the patient per vaginam until after the completion of first stage of labor. The students are then allowed to examine the patient for the intra-vaginal diagnosis of the presentation.

Every person examining the patient is compelled first to scrub his hands in warm water and carbolized glycerine soap with a nail-brush, special care being taken to see that the finger-nails are scrupulously clean. They are then compelled to rinse their hands in a 1-1000 corrosive sublimate solution, and not to dry them. The examining finger is then anointed with a lubricant composed of one part liquid carbolic acid (a 95 per cent. solution) to eight parts of olive oil and eight parts of petrolatum or albolene. The clothing of the examining arm is protected by having a towel wrapped around it, and the examiner or student, as the case may be, carries his hand under the sheet and examines the patient without exposing the nates. At the time that the child's head is about to be delivered the whole vulvar orifice is anointed with the lubricant previously mentioned. After the labor is completed the vaginal canal is irrigated with two liters of a millesimal solution of corrosive sublimate. If any manipulative aid has necessitated the carrying of the hand or instrument into the uterine cavity it is irrigated with half a liter of a 1-4000 corrosive sublimate solution. All douching, both of the uterine cavity and of the vagina, is done by hydrostatic pressure; the douche receptacle is made of glass, and

the Kelly rubber pan is used to collect the waste and to prevent the patient's clothing and the obstetric bed from being soiled.

The douche nozzles are of hard rubber, and they, with the tubing connecting them to the glass douche receptable, are always kept, when not in use, in a 1-1000 solution of corrosive sublimate. If the hand or forceps are carried into the uterus, or if there be extensive laceration of the cervix uteri, in addition to the intra-uterine douche after the placenta and secundines have been delivered, an iodoform bacillus is carried up in the fundus uteri. This bacillus is made after the formula of Braun and Spaeth, as described in Lusk's Science and Art of Midwifery, with the exception that it has added to that formula a few grains of gelatine, experiments with the water-bath at a temperature of 100½° F., having demonstrated the fact that the gelatine added delays the too speedy dissolution of the bacillus. The exact formula for the bacillus is as follows:

| | |
|---|---|
| Pure powdered iodoform | 75 grs. |
| Powdered starch - - | 15 " |
| Powdered acacia - - | 15 " |
| Pure glycerine - - - | 15 ♏ |
| Gelatine - - - | 2½ grs. |

The labor completed, and the primary aseptic treatment having been attended to, the vulvar outlet and the walls of the vagina are carefully inspected to see whether or not any tears have occurred. Superficial tears of the vaginal wall and of the floor of the perineum are lightly touched with pure carbolic acid. This gives the patient but momentary pain, and effectually seals up possible foci of septic infection.

Tears of any magnitude involving either the vaginal wall or the perineal floor, are carefully cleansed with a 1-2000 corrosive sublimate solution. The tears are then carefully approximated with fine silver wire sutures, and the sutures clamped in position with compressed perforated shot, special care being taken to carry the sutures below the bottom of the rent. If there is any excess of hair about the vulvar orifice, or if the hair is long, so as to collect or prevent the escape of the lochial discharge, it is trimmed away, in order that the parts may be kept perfectly clean. This is the more important if there be a tear of the perineum.

The patient is then removed to the convalescent ward, and the external genitalia are carefully washed with a 1-2000 corrosive sublimate solution every three hours for the first 72 hours of her convalescence; after that, every four hours during the remainder of the time that she keeps her bed.

For napkins we use cheese-cloth which has previously been asepticized by immersion in a millesimal solution of corrosive sublimate. These napkins are used over and over again until the material is worn out, with the exception that those taken from any case w the slightest rise of temperature or lochial fetor or other manifestation of septicemia are immediately burned. The napkins are merely tucked in between the patient's thighs to act as an absorbing surface for the lochial discharge, and are not brought up over the vulvar orifice. Any portion of the patient's clothing or bedding that becomes soiled with blood or lochial discharge is immediately changed. Where we have to deal with post-partum hemorrhage, whether it is immediately after labor or whether it comes on several hours after delivery, we resort to the use of hot corrosive sublimate solutions of the strength of 1-4000 thrown into the uterine cavity to control it. In addition to the washing of the vulva, the patient for the first three days of her convalescence receives, as a matter of routine, a vaginal injection of corrosive sublimate of 1-2000. Wherever upon abdominal palpation we find that involution has not progressed satisfactorily, the patient is put upon the use of ergot and quinine in full doses. If, in the course of a few hours, the uterus fails to expel clots that may be in its cavity, they are removed with the finger; this being done, of course, by the resident physician, and not by the nurse. Whenever the patient's temperature rises to 101° F., which seldom occurs, the uterus is irrigated with a solution of corrosive sublimate of 1-4000, its cavity carefully examined with the

finger for any fragments of retained placenta or secundines, and if any are found to be present they are removed by using the exploring finger as a curette, and an iodoform bacillus is carried into the fundus. If the patient presents constitutional evidence of commencing septicemia, as for instance, chill or hyperpyrexia, she is given at the same time one gramme of antipyrin. The nurses are never allowed to handle any patient without first disinfecting their hands with the corrosive sublimate solution. They are compelled to wear washed dresses, which are changed every day. For making the corrosive sublimate solutions we use the antiseptic tablets prepared by John Wyeth & Bro., some years ago at my suggestion. Each tablet contains $7^7/_{10}$ grs. of corrosive sublimate, and $7^3/_{10}$ grs. of muriate of ammonia. One of these tablets added to a pint of water makes an accurate millesimal solution. Each tablet has stamped upon it the word "poison" in an aniline dye so to as prevent their being used by mistake for any innocuous remedy.

Patients are grouped as far as possible in classes and are put up in wards together, each ward containing only four beds, and only those patients put together in the same ward who have been confined within a period of 48 hours of each other; experience having taught that it is a very dangerous thing to put a woman freshly confined into the same ward with women who are in the seventh or eight day of their convalescence. As soon as one group is able to leave a ward it is thoroughly scrubbed and aired and left vacant for 72 hours before another lot of convalescing women is put into it. While the ward is vacant the mattresses are all thoroughly aired by exposure to the open air and if possible to sunlight.

While all these precautions may be unnecessary in private practice, the author is convinced of their necessity in hospital work. And the happy influence that their observance has had upon the prevalence of septic infection and the normal convalescence which goes with their rigid observance, makes it very clear to him that they not only are necessary, but that the comfort and safety of the patient demand their rigid enforcement. With this care many patients go through their convalescence with the temperature never going higher than 99° F. In no one instance have symptoms of corrosive sublimate poisoning or of iodoform poisoning prevailed. For the last three years the author has followed the same general plan of aseptic treatment in private with the happiest results.

It would be unfair to conclude the description of the aseptic precautions enforced at the Charity, unless we made mention of the aseptic care of the breasts. Wherever we have fissures or cracks of the nipple, the nipple is washed, before and after each application of the child to the breasts, with a saturated solution of boracic acid, and after the child is done nursing, the nipples are anointed with castor oil, any fissures that may be present being lightly touched with a fine camel's hair pencil wet with the compound tincture of benzoin. If the cracks are extensive, a solution of nitrate of silver (10 gr. to the ounce of water) is used instead of the compound tincture of benzoin. If the breasts are turgescent and there is a hyper-secretion of milk, they are supported with a Richardson bandage.

Before the child is put to the breast its mouth is carefully washed out with the boracic acid solution. With this care of the breasts not one case of mastitis has occured in the last 200 confinements. As regards the danger of corrosive sublimate poisoning to the nurse, while many of them have been constantly on duty in the maternity wards for periods extending over two months, we have yet to record a case of mercurialism with any one of them.

Not only must we keep our patients scrupulously clean by the careful attention to the aseptic details previously described, but we must also see that each patient has an abundance of pure, fresh air. This we obtain in the hospital by having air drawn down from the roof through a large stack, heated in winter time in a hot air chamber and driv-

en by a fan through all portions of the building, so that the entire cubic atmosphere of the building is changed, according to competent authority, once in every eight minutes. In addition to this we give each patient a superabundance of cubic air space.

Every room in the house has an open fire-place and all wards with a capacity of only four beds have two open fire-places. The bed spaces are also so arranged with reference to the windows that we can get direct ventilation for every ward without exposing the patient to draught. The wards are kept at a uniform temperature of 68° F., and the patients are allowed only sufficient covering to keep them comfortably warm, the author believing that many cases of septic infection are encouraged by the excessive heat of the patient's body, predisposing to putrefactive change in the lochial discharge, especially if at the same time there is a lack of proper cleanliness.

While the last 60 cases in the new building have been without septic trouble amounting o anything, or placing the patient in any jeopardy, to illustrate the difference between the need of such strict antiseptic care where obstetric cases are aggregated under the same roof and the necessity for such strict antisep- nly fair to state that in the out-door practice of the institution, embracing over 14,000 cases of labor, and where anything like an approach to antiseptic care has only obtained in the last three or four years, the death rate has been less than one-fourth of one per cent.—*Med. Times.*

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THE DEPOPULATION OF FRANCE.—A Paris correspondent writes to the *London Lancet* as follows:

The authorities of France are becoming justly alarmed at the gradual and persistent depopulation of their country. According to a report of the last census in 1886, drawn up by Dr. Chervin for the Academy of Medicine, it appears that of 100 French families, 20 have no children, 24 have one child, 22 have two children, 15 have three, 9 have four, 5 have five, 3 have six, and 2 have seven and more. The number of families without children has augmented to 3 per cent within the last thirty years.

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THE QUALITY OF ANESTHETICS IN NEW YORK.—The chemist of the New York State Board of Health reports that in 1887 there were 326 samples of official drugs examined and tested as to purity. The results are not very striking, except as regards chloroform and ether. It was found that safflower is very often substituted for saffron, and that washed sulphur is often impure. Of 53 samples of chloroform, 39 were of good quality, 10 fair, 4 inferior. Of 53 samples of stronger ether, there were 20 of good quality, 5 fair, 26 inferior. Over half the ether dispensed was of bad quality.—*Med. Rec.*

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FASHIONS FOR THE DEAD.—A Glasgow paper has the following advertisement: "James Hodges continues to sell burying crapes ready made, and his wife's niece dresses dead corpses at as cheap a rate as was formerly done by her aunt, having not only been educated by her, but perfected in Edinburgh, from whence she has recently arrived with all the newest and best fashions for the dead."

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DR. PETERS, of New York, said of Dr. C. R. Agnew: He had enjoyed uninterrupted good health up to his last short sickness: the reward of a splendid constitution and a life of purity, simplicity and frugality almost without a parallel. He and those other great Christian physicians and surgeons, Port, Peaslee, Parker, and Sands, made Christianity pleasant and attractive to all.

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DR. W. H. PANCOAST, of Philadelphia, says (*Med. Times*), that the most practical classification of ulcers is: acute and chronic as to duration, and simple and specific as to cause.

A simple classification is well enough, but it is well to be careful that it does not lead to a routine application of remedies. There is no all-cure for chronic ulcers.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### "IS MARRIAGE A FAILURE."

BY H. C. FAIRBROTHER, M.D.

Read before the Medical Press Association, Jan. 20, 1889.

The various social and moral features of this subject having been thoroughly discussed in recent general literature it will be the aim of this paper to allude briefly to its physiological and pathological aspects.

Viewed from the standpoint of physiology and pathology marriage is an institution designed for the propagation and rearing of the human species, and for the normal and healthy fulfillment of the sexual instinct.

With regard to the first of these heads, the two parts of the subject must not be lost sight of. Indeed marriage bears a more important relation to the proper rearing of the race than to its propagation.

To propagate is an instinct like hunger or thirst, and is held in common with all animal creation. If the institution of marriage is given no higher interpretation than the propagation of the species then it is scarcely elevated above the "mating" which takes place among the lower orders. If this was its only object then the question as to whether marriage is a failure would be open to reasonable discussion. It might well be argued that the present system of marriage, in a large number of instances, sanctions the union of parties entirely unsuitable, in health intellect and morals, for the performance of this high function; that some other mode of selection might be adopted, whereby the duties of this office, so laden with the welfare of humanity, should be performed only by men and women presenting proper qualities and qualifications. It could also be maintained that marriage is a failure, so far as propagating the race is concerned, from the fact that the race is being propagated more from the bottom than the top. That more children are born of parents unfitted for parentage, than are born to those who are thus fitted, is not entirely due to the fact that the former class is larger, but is owing to the modern practice among the educated people of shirking the duties and cares of child-bearing and child-raising. While the growth of the race is from the lower strata, its feet will remain in the clay, and no progress will be made. The arts, literature and inventions grow from generation to generation, and again begins its growth at the bottom.

Everything progresses but man. We have railroads and telegraphy and a thousand improvements and advantages over the ancients, but the men and women of to-day are no better than those of two thousand years ago. Indeed, when we read, in the daily press, accounts of the conduct of men elected to office, we long for a Cicero to drive the catalines into the mountains.

Thus, if marriage was viewed only as a means for propagating the species, it would be open to grave criticism. But it has a far wider horizon than this. Man is married to woman, and the two are married to a home, where children grow up under parental control, and by this means only is the fabric of society held together.

The chief medical feature, however, of this subject is its relation to the proper and healthful fulfillment of the sexual instinct. The instinct or sympathy by which the sexes are led together in pairs is one of the strongest animal propensities, and in many cases it

becomes the passion ruling over all others. It is just as much a part of healthy animal nature as any of the other appetites, as hunger for food or thirst for drink, and the absence or obliteration of this feeling is a defect in the individual in the same sense as would be the loss of any other sense, such as hearing or sight. This is a natural law, and demands the same obedience as other natural laws. Celibacy, instead of being one of the highest virtues is an open violation of one of the plainest physical laws.

The pairing or association of the sexes, that is, marriage, has its foundation in physical law, and to argue against it is as useless as to argue against any other physical law. Objections may be urged against the forms or ceremonies, or manner of contract, but no argument can be directed against the underlying principle.

Now, the fulfillment of this natural law, in a manner consistent with health and morals, is a question of very great importance. It will hardly be claimed that there is any cause operating more disastrously against the physical development of the race than syphilis.

This malady, that came into notice in the fifteenth century, has now penetrated all known parts of the globe. There can be no quarantine against it because it travels upon invisible roads. It may hide under the cloak of affection, and by a kiss, be conveyed to the lips of innocence. It is not limited to the victim it attacks, but uses this victim for the infection of many more. It is not a disease of a day or a month or a lifetime, but becomes the heritage of unborn generations. Some diseases leave a favorable impress upon the general constitutions this one has no redeeming feature. On the contrary, whether justly or not, it always bears the stain of disgrace. It walks the earth like a pestilence and contaminates wherever it touches. The remedies used for its treatment are often as disastrous as the disease itself. Some ailments may be left behind, but from this there is no escape in flight. All the world is its dwelling place and every season and climate its own. It does not live to itself, but is the ally of consumption and the handmaid of innumerable disorders.

Now it cannot be denied that the perfect observance of the institution of marriage would result in the early extinction of this dread disease. Let absolute continence be maintained outside the marital relation and this disease would die of inanition. It may be maintained that syphilis has continued to spread notwithstanding the institution of marriage. But this is not the fault of the institution but the failure of its proper observance. There are many whom marriage never reaches, and many others whom it reaches too late, but wherever it goes, in true observance, its triumph over this baleful disorder is complete.

The institution of marriage is the only fortress invulnerable against this disease, and in it lie the best hopes for the health of the race.

If marriage is a failure either as a means for the preservation of health, or for the propagation and rearing of the species, it is so only in the sense that steam-power is a failure in not accomplishing more than it does in the work of the present time.

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## REPORT OF A CASE OF PUERPERAL ECLAMPSIA.

BY L. C. ARMSTRONG, M. D., TAYLORVILLE, ILL.

Convulsions at the parturient period are fortunately not common. When they do occur the attack is so sudden and unexpected, so terrible in its nature, attended with such great danger to both mother and child, and the necessity for relief so pressing, that I thought the following case would perhaps be of interest to the profession.

Mrs. S., primipara, German, aged 20 years, in eighth month of pregnancy, was taken at 3 o'clock A. M., Jan. 3, 1889, with a severe pain in head and vomiting, which was followed in a few minutes by a convulsion.

After the convulsion coma and unconsciousness continued, convulsions recurring about every hour and a half until 1 o'clock P. M., when I first saw patient. Up to this time she had had seven convulsions, and another came on soon after my entering the room. I found, on examination, a vertex presenting, womb contracting, with os dilated to the size of a quarter of a dollar. I at once punctured the membranes, and as the patient was quite plethoric and cyanosed I opened a vein in her left arm and removed 16 ounces of blood. I next injected one grain of sulphate of morphine hypodermically and emptied lower bowel with an enema of warm water. After this I threw into the bowels 40 grains of chloral and 60 grains of bromide of potassium.

The next spasm was, I think, much lighter, and almost two hours from the one previous. After this I administered chloroform at intervals till the termination of labor, by the use of the forceps, at 8 o'clock in the evening. She had in all 12 spasms before being delivered, and none after. I injected one third of a grain of morphine hypodermically after delivery, and continued chloroform at intervals for a few hours, enough with the morphine to keep patient quiet. I remained with the patient until 10 o'clock next morning, and upon leaving, drew off with catheter a quart or more of urine, which I found to contain quite a quantity of albumen. I prescribed morphine in one-fourth grain doses with directions to be given when patient seemed restless.

Upon calling next morning I found patient yet unconscious. I emptied the bladder again with a catheter, found a pulse of 100 and scarcely any fever. On day of delivery patient had a pulse of 120 and a temperature of 104° F.

At my visit on the third morning, some 40 hours after delivery, I found patient perfectly conscious, and doing well; but she had no recollection of the ordeal she had passed through, and was much surprised that she had given birth. Patient has fully recovered without an untoward symptom.


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914 LOCUST STREET, ST. LOUIS, MO.

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## VISION IN THE STUDY OF DISEASE.

Before our present system of physical examination was brought into universal use, the general aspect of the patient played a much more important part in the formation of a diagnosis than it does now. It is quite true that the confidence of our forefathers had in their ability to make a diagnosis without touching the patient, frequently led to erroneous and even absurd conclusions, but it is also true that in the rush that the profession is now making to reduce all knowledge of disease to scientific facts, the habit of close observation of general conditions is being neglected. I do not underate physical diagnosis, for were we to be deprived of such knowledge now, we would scarcely think it worth while to practice our profession. My object is to call attention to the tendency to accept that which is new to the exclusion of the old.

Of the various means by which the mind receives a knowledge of outward objects that of sight stands first in the production of accurate and lasting impressions. A failure on the part of medical faculties to recognize this constitutes the greatest deficiency in our present system of medical education. The accumulation of facts, with a lack of power to apply them so as to obtain practical results has given rise to the epithet "educated fools". How often we have seen medical students prate off Gray's Anatomy by the page and yet when placed beside the dissecting table, they could scarcely distinguish fat and fassia from nerve and muscle. The way

to teach anatomy is to show the various parts of the human body, *in situ*, to the student, tell him the names and the relations of the parts to each other, and while he has the subject before him have him demonstrate the dissection. The dissected subject, before a large class in an amphitheatre, is worth very little to men who occupy the first and second rows of seats, and nothing at all to the remainder of the class.

The establishment of chemical, physiological and other laboratories is a step in advance, but that which is of infinitely greater importance is to give each student an opportunity to see cases of, at least, the more common forms of disease that he is to be called upon to treat. How many recent graduates can distinguish scarlet fever from measles, chicken-pox from modified small-pox, conjunctivitis from iritis, or a plug of cotton in the ear from the normal drum membrane? One good look at any skin disease is worth pages of printed matter describing it. No graduate should be allowed to practice medicine until he has taken a hospital course and seen something of disease.

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## Free Dispensaries.

The question of charity practice in cities has long been one of deep concern to the profession. No one will question the fact that the very poor are as deserving when sick of medical attention and medicince as they are of food, fuel and clothing. In truth it would be a difficult matter to convince the laity that the poor have not the right to demand the services of a physician when needed. But where is the division line to be drawn?

It is a common observation with every one that that which is easily acquired is lightly esteemed, and a too free dispensing of charities increases the need for them. But this does not prove that charities should not exist, it only calls for the most careful supervision on the part of those who conduct them. The late Dr. C. R. Agnew once said to me, in speaking of the Manhattan Eye and Ear Hospital, "we must be constantly on the alert to see that this institution is not a curse instead of a blessing to humanity". Nothing seems clearer to me than that persons who are able should be required to pay full value for services rendered; and it is better for both patient and physician that the middle classes be required to pay in proportion to their means. As a rule physicians receive much less than the full value of their services; the instances are rare in which regular practitioners receive more than their just dues.

Under the title of "A Scheme for Acquiring Practice" the *American Lancet* quotes from the *Medical Register* a synopsis of a scheme now being carried into effect by some quacks in Philadelphia. Their circular states that a patient can receive "one office treatment for twenty-five cents, or five office treatments for one dollar." The *Lancet* adds:

"Medical colleges and free dispensaries do the same sort of advertising, only they offer free services. Private sanitariums and hospitals, etc., do the same thing, charging various prices. These are high toned, in that they give better accommodations, ask larger fees, etc. But the principle is the same. They advertise to the laity that they have especial facilities for the performance of certain medical or surgical service."

Evidently our friend Dr. Connor does not believe much in charity in medicine. He says the only return that free dispensaries and college clinics make for "outraging the plain rights of their fellow practitioners, and deliberately seeking to increase pauperism among the laity, is "in the way of educating the profession."

The only principle upon which the very poor can be denied free treatment, is "the survival of the fittest." If we grant that they are entitled to treatment, then the question arises where are we to see them? A busy physician cannot afford to visit free many such patients at their homes, and he who invites the miserable, squalid, and afflicted poor to take seats in his private office along with his "pay patients," will soon find that his office has become a "free dispen-

sary." If he has a separate room for the poor then he has a "free dispensary" in conjunction with his private office.

The common principles of humanity demand that free dispensaries shall be supported in our large cities, but it is the duty of the profession to see to it that they are not a "curse instead of a blessing." I cannot believe that Dr. Connor condemns them altogether, I think his object is to call attention to the abuses that have been practised in their management.

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### Richmond Medical and Surgical Society.

Following the annual election of officers (*Vir. Med. Monthly*), this society voted that a prize of $100 be awarded at some time during the fall or winter of the present year, to that one of its members who shall "present the best essay indicative of original work, subject to the usual conditions in awarding such prizes." Dr. Hunter McGuire individually offered a prize of $100, to be awarded to that member of the society who shall "present the best approved essay on any surgical subject of his choice."

Efforts to stimulate the members of societies to give the profession the benefit of their observation and experience in treating disease are certainly very laudable. I sincerely hope that the plan adopted by the Richmond Society may accomplish the desired end, but I am inclined to think the good effect will be ephemeral. Only one can receive the prize; generally a greater number are doomed to disappointment. Physicians are slow to place themselves on record as being second to their neighbor practitioners.

At the beginning of the year 1888 the St. Louis Medical Society instructed its Executive Committee to prepare a printed programme for each regular weekly meeting, and mail a copy to each member of the society two days previous to the meeting. The committee carried out the instructions, to the letter, and the society has never before had so prosperous a year. The members, by this means, were able to partially review their knowledge of the subjects to be presented, and the discussions were correspondingly more interesting and instructive.

An energetic Executive Committee will keep in close communication with the working members of the society, and have many an interesting case presented that would otherwise go by default.

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### Counter-Prescribing in Kansas City.

It is said that all minor ailments and many serious ones, with which the inhabitants of Kansas City are afflicted, are treated by the druggists of that city. Many physicians are dispensing their own drugs as a means of self-defense.

Patients have a right to obtain what relief they can at the hands of the druggists. They have been warned of the dangers they encounter in so doing. A druggist or any one else who essays to treat diseases, of the nature of which he knows nothing, is a quack, a fraud, and should be treated as other members of this class should be treated.

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### The Chicago Abortionists.

It is quite probable that the readers of the Review have read in the secular press of the method which the *Chicago Times* has so successfully used to entrap some of the abortionists of that city. A female reporter personating an innocent young girl who had "loved not wisely but too well," called upon a number of doctors, midwives and quacks. She was accompanied by a young man who acted the part of brother. Her report of the interviews shows that while the greater number of abortionists are of a class that claim but little respectability, a few were found who had boldly mingled with the leaders of the profession.

Some persons have doubted that any good may come of the exposures made by the *Times*. It has at least opened the doors of a few of the dens of crime, and invited those whose duty is to punish violators of the civil as well as moral and religious laws, to step

in and see that the proper punishment is meted out to the offenders.

Men seldom assume risks that have no reward. One good must assuredly come from the *Times'* exposures—the men who have stood as sign-posts directing unfortunate women to "those who will," have learned to their cost that their infamy may be exposed, even though they may not be amenable to the law. He who directs a woman to an abortionist is as responsible for the crime that may follow as the one who commits the abortion.

Some of the accused were members of the Chicago Medical Society, and the society has wisely appointed a committee to investigate and report on the charges. The committee has recommended that one man, named Thurston, be summarily expelled.

The *Jour. of the A. M. A.* says: "It is not our purpose, nor is it proper for us to be judge and jury in regard to these cases. The State of Illinois has laws, and instruments for their execution; it has a State Board of Health; and there is a large medical society in this city, to which some of the offenders belong. Men that will commit abortion are unfit for citizenship in any civilized state, are far too lost to moral responsibility for the profession of medicine, and too degraded to be the associates of honest men. Then let the police, the courts, the State Board of Health, and the medical societies take the record furnished by the *Times* and deliberately proceed with the execution of the laws of the State and the ethics of the profession with strict impartiality and unswerving justice. To leave the matter where it is, a simple newspaper exposure, will result in its horrors being forgotten in six months, while the black list will remain as a convenient directory for those who may be in want of abortionists in the future."

I differ widely from the opinion expressed by the *Journal* in regard to the treatment which the mother should receive at the hands of the physicians. The editor says: "But all the parties to infanticide are equally guilty, the instigators as well as the perpetrators, and while we look with pity on the unfortunate doctor whose weak sympathy leads him to commit crime to prevent disgrace to an unfortunate young woman; and with horror upon the professional scoundrel who makes it a business, let us also condemn the other party to the act. There can be no premeditated infanticide without the cooperation of the unwilling mother, and while hers is not infrequently the worst punishment it must be remembered that she deserves it. The crime begins, therefore, with those who solicit the practice. And it would have a wholesome effect if physicians instead of being gentle with such persons and delivering free moral lectures to them, would simply hand them over to the police."

It is universally acknowledged that "woman is the weaker vessel;" and the will of many a pure and innocent girl has been made subject to the will of a scoundrel. I grant that if she is properly educated she will be able to protect herself against such men; but when will the time come when all girls will be taught the dangers to which they will be subjected. It must be admitted by all that a girl may be "wronged through no fault of her own."

The *Journal* seems to have lost sight of the fact that the disgrace which follows these unfortunate women through life is much greater than that which has driven many a strong man to commit suicide. I do not condone the crime, but I hold that such women are deserving of pity and sympathy, and it is the duty of every physician who is appealed to in such a case, to use his influence in preventing the engrafting of crime upon wrong.

Chicago is worse than some other cities in proportion to its greater number of inhabitants. The larger the city, the less the knowledge of each citizen of his neighbor's conduct.

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"The Philadelphia Polyclinic has decided to establish a three months Special Course in Ophthalmology, adapted to the wants of physicians who desire to make themselves thoroughly familiar with this branch. It

will include systematic didactic instruction, and quizzing, with abundant clinical work."

The above statement has been going the rounds in the medical press and is somewhat misleading. Every physician who can should take such a course, but he should be taught, by those who know, that no man can make himself "thoroughly familiar with this branch" in three months time. An ophthalmologist made in three months is no better than a doctor made in three months. A man whose education in this line does not extend beyond this time will "spoil a bushel of eyes" if he poses as a specialist. A physician has a right to treat any case of disease that may come under his care, provided his opportunities have been such as to enable him to know what should be done.

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## Laparotomy in Suppurative Peritonitis.

Mr. Keetley, of West London Hospital reports two cases (*Lancet*) in which suppuration had taken place in the abdominal cavity. In one case, a girl, 11 years of age, was suddenly seized with nausea and vomiting, and three days later she was taken to the hospital. For four days following this she vomited at intervals and suffered from paroxysms of excruciating abdominal pain. The bowels had moved freely and the discharges were natural. On the seventh day of the disease Mr. Keetley made a small incision (about two inches in length) through the abdominal wall midway between the umbilicus and the pubes. While exploring the abdominal cavity with his fingers he found the intestines empty and presenting no evidence of obstruction. A hardish mass was found in the iliac fossa which during manipulation burst, and fetid pus escaped into the peritoneal cavity. The opening in the abdominal wall was enlarged and the cavity thoroughly cleansed with a hot weak solution of boracic acid. The wound was closed in the usual antiseptic manner. On the second day after the operation diarrhea set in and continued four hours, when the patient died.

It is very much easier to make suggestions, on reading the report of this case, than it would have been at the bed-side of the patient. It is easy to believe that had drainage of the abscess sac been established through the abdominal wall and the pus prevented from entering the peritoneal cavity, the patient wovld have had a much better chance for recovery. The lesson to be learned from the case is that great care should be taken in the manipulation of abdominal tumors.

On post mortem a small concretion was found in the vermiform appendix which probably gave rise to the inflammation.

In a second case girl, age 11 years, a history of traumatism was elicited. Two weeks before admission she was kicked in the right loin and front of abdomen, without, however, feeling much pain at the time; but in the evening she had very severe pain in the right side, and was delirious at night. A medical man was called in, and ordered rest in bed with liquid diet. Under this treatment she improved until two days before her admission, when she got out of bed and sat by the window, this being followed in the evening by severe pain, which continued from that time until her admission. During the first few days of her illness she vomited a great deal, but had no diarrhea. After this diarrhea commenced and the vomiting subsided, her motions on admission being frequent, loose, and slimy.

On entering the hospital a well marked fluctuation wave could be elicited over the lower portion of the abdomen, especially in the right iliac fossa. There was swelling in this region which was fairly defined. An incision was made two inches in length, and midway between the umbilicus and pubes, and a pint and a half of pus evacuated. The cavity was thoroughly cleansed with a bichloride solution, drainage tubes introduce and the wound dressed in the usual antiseptic manner. The patient made a good recovery.

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## Diphtheria in London.

The *Brit. Med. Jour.*, says that this "eminently preventable disease" is rife in the

great metropolis. Since the close of September last, from 25 to 40 deaths have been registered each week. Few districts have escaped,and in Walthamstow the disease is epidemic.

Outbreaks of diphtheria have been reported during the year at Enfield, Chelmsford Grammar School, Shooter's Hill, Walthamstow, Sandhurst, Camberly, and at Haileybury College, where reason was given for believing that the college well was liable to receive the soakage of surface pollutions. Official inquiries into outbreaks have been made by the Medical Department of the Local Government Board at Enfield, Walthamstow, Uckfield, Wincanton, Exmouth, St. Austell, Stratton, Midsomer Norton, Monmouth, Ashbourne, and other places. Obscurity as to the cause of the disease characterized each of these outbreaks, but school attendance and the intercommunication of children from infected houses with healthy children were in each case found to have conduced to the spread of the malady. Dr. Turner and Dr. Bruce Low have recorded cases where the infection was, in all probability, imparted by cats and other domestic animals suffering from diphtheria or an allied disease; and Dr. E. Barnes, in a very able paper, has discussed the connection of diphtheria with sanitary surroundings, dampness of sites of houses, and pre-existing cases of apparently non-specific sore throat.

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Saccharin as an Antiseptic in Ophthalmology.—At a meeting of the Societe de Therapeutique de Paris, October 24, Dr. Constantin Paul read a paper upon the experiments made by Dr. Trousseau to decide the utility of saccharin as an antiseptic in ophthalmology. After having convinced himself of the absolute harmlessness of this preparation in its action upon the cornea of rabbits and dogs, he tried the same in solutions of 1:500 and 1:250 upon thirty patients. From the results obtained, he concludes that daily applications of, and washings with saccharin solutions, can be undertaken without any harmful reaction. Enucleations, three iridictomies, eight extractions for cataract, and different operations upon the eyelids healed without any reaction setting in. It was found of special use in catarrhal conjunctivitis.—*Wiener Med. Presse.*

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## EDITORAL PARAGRAPHS.

BY I. N. LOVE, M. D.

Jordon W. Lambert is dead! How strange it sounds to say it. He was one so full of life, vim, erergy, animal magnetism, and that thoroughly American spirit expressed in the slangy phrase "get up and git" that it is difficult to associate him with thoughts of death. Is there in all our broad land a doctor familiar with pharmaceutical progress and the literature of our profession who was unacquainted with Lambert? Indeed, he was known on both sides of the Atlantic.

As a business man he was like the product of his laboratory, safe, reliable, trustworthy, uniformly palatable.

Only 36 years of age, and yet, if his life were to be measured by that which he accomplished it was a long one.

His relations as a pharmacist to the medical profession were unique. He made a fortune in a few brief years in consequence of that relationship. Not one man in ten hundred thousand could have been brought daily in contact with the medical profession from the commercial standpoint and have been so thoroughly *en rapport* with it. His ethical sense was so acute that he never obtruded his wares or himself on any member of our guild. In fact, his wares were lost sight of in his charming, warm-hearted, generous personality, and that same genial, sunny, unselfish presence was ever a commendation of his drugs.

In the various medical conventions of the past ten years from one end of the country to the other and even on the other side of the water Lambert was always there or thereabouts, and as water seeks its level, so did he, and the choicer, warmer, nobler spirits of the profession naturally come together.

And how they loved him. His every thought was to cheer and brighten them, and as they returned to the dreary, hum-drum round of professional work one of their pleasantest memories was Lambert. Will any of us who were there ever forget the goodbye gathering at the Riggs House Annex on the Friday night of the Ninth International Congress at Washington, or Cincinnati, Chicago, or Crab Orchard?

As he drifted out upon the dark and unknown sea that rolls around all the world let us hope that the good angels who love those who love the beautiful, the poetical, the cheerful, the bright and the good, took him in charge and saw to it that his every want was provided for. St Louis has lost one of her most public spirited, princely characters, and we all mourn a noble generous friend.

Dr. Robert, his excellent rector, said truly over his remains "his heart was warm and full of kindly impulses, his imagination artistic, active, alert, his life full of poetry—a poetry of acts and facts."

As we laid our friend away 'neath the cold hill-side of Bellefontaine the blizzard from the west sang a song of sorrow through the leafless trees, the sun had sunk to rest and where he had been, naught but the blackest clouds remained. "Day closed its windows, and night, that queen who reigns only when she falls, shook out the shroud she wears for gown," and the bitter blasts how cold they were. As shovel followed shovel and the clods rudely fell upon the coffin the thought grew strong and stronger; our loving, merry, helpful, successful friend is not there, but has crossed over the dark river, upon the sunshiny shore he is resting under the shade of the trees.

* * *

One of the best features of the new law in the State of New York regarding the execution of criminals is that no one is allowed to be present save two or three officers of the law. The demoralizing effect of a public execution is intensified a thousand fold by the sensational publication of details in the daily press. A constant effort should be made to suppress a taste for the horrible. It is questionable whether all amusements which involve danger to life and limb or delineate the tragical are not objectionable for the same reason.

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The following is a good combination for fermentative dyspepsia, viz.:

| | | |
|---|---|---|
| Acide carbolic, | - | gr.vi. |
| Tr. nucis. vom., | - | ʒss. |
| Acid nitr. mur. dil., | - | ℥ss. |
| Elix. lacto. pep. tinc. | - | ℥iii. |
| Sprts. frumenti, | - - | ℥ii. |

M. Sig. Teaspoonful 3 times a day before meals.

* * *

The excessive use of alcohol has been of vast injury to those who have indulged to such extent and in addition to the fact that it has developed a class of fanatics who do the cause of true temperance much harm every day by madly rushing to the other extreme. This thought recalls to my mind the paper which was published some years ago by the W. C. T. U., St. Louis, in the form of a pronunciamento from a number of local physicians to the effect that all forms of alcohol were evils which gave rise to naught but evil —that there was no occasion in health or disease, but that their effect was injurious. To all such may be commended the following from the *London Lancet* of Dec. 22, 1888, viz.:

"Two facts stand out in strong relief—viz., that alcohol in some form is part of the daily diet of the vast majority of the individuals comprised in the most vigorous, progressive, and enlightened races in the world; and, secondly, that beyond doubt it is a fertile source of disease.

As regards the former point if the effect of alcohol in every case and in all degrees of moderation were inevitably injurious, we should expect to find that the most vigorous workers and the best thinkers would be compelled to forego an indulgence which *ex hypothesi* would cripple their powers and give their abstaining competition an immense ad-

vantage in the struggle of life. As a matter of fact we find nothing of the kind. The men who do the best work of the day in all the departments of human activity find, as a rule, that strict temperance is absolutely essential if they are to keep in the front rank, but only an insignificant minority of them become total abstainers. Not a few, desirous of making the very utmost of their powers, try total abstinence as an experiment, and deliberately return to the prudent use of alcohol as the better way. These facts are surely incompatible with the theory that alcohol is always necessarily injurious."

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The REVIEW has lost the services of Dr. R. M. King in an editorial capacity in consequence of his having resigned from the Medical Press Association. It is needless to say that this will be a loss to the readers of this journal and the editorial staff.

Dr. King has been with us from the time of our organization three years ago and severs his connection now owing to press of other duties.

We are loath to lose our confrere but I am free to say that wherever he may cast his lot he will be to the front working for the advancement of science and the upbuilding of the medical profession.

He is coming to the front rank of the profession in St. Louis and he deserves to do so.

May success attend you Dr. King in your dearest desires and your every eudeavor.

* * *

In the *Archives of Pediastrics* for December, Dr. Chas. W. Earle closes an excellent paper on Incontinence of Urine in Children, by saying that "in any case of incontinence" that has resisted the ordinary routine treatment use the sound. This single instrument has performed more cures in my practice than all the drugs which I have prescribed, and as many as have been cured by operation for phimosis, or elongated, contracted and adherent prepuce.

* * *

The problem as to the proper food for infants is an ever present one. The best substitute for mothers' milk is probably that of some animal, cow's milk is in some cases not easily digested by infants, and it may harbor the germs of tuberculosis.

Boiling will destroy these germs but it is objectionable for the reason that it sometimes causes constipation.

The *Brit. Med. Jour.* quotes the views of Richter, presented in the *Ber. Klin. Woch.* to the effect that goats milk is superior to that of the cow. The goat is an inexpensive animal being able to live on the roots of grass, sticks, hoop-skirts and tomato cans. He is rarely affected with tuberculosis. Its milk containing much less casein, is more digestible than cow's milk. Richter is surprised that a source of milk so free from suspicion and so easily procurable as the goat should be so much overlooked.

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## SOCIETY PROCEEDINGS.

### ST. LOUIS MEDICAL SOCIETY.

Stated meeting, Saturday Evening November 24, 1888, Dr. GEO. F. DUDLEY in the Chair, J. B. PRITCHARD, M. D., Secretary.

DR. LUDWIG BREMER.—I have here a specimen from a distant relative of man—the jawbone of an ox. It was handed to me that I might see whether or not there was any microbean feature about the trouble, and whether it was in any way connected with the meat question which was agitated so actively during the last week. It is a specimen of what is generally known as lump-jaw or big-head in cattle, a disease peculiar to cattle, also erroneously called cancer.

Very little was known about this disease until the year 1877. At that time veterinary pathologists described it as osteo-sarcoma, and indeed the resemblance to such a tumor is very great; others had regarded it as simply a process of ostitis, but no one had suspected the contagious or infectious nature of the trouble. In 1877 Ballinger, of Munich, examined pieces of such a tumor and found a regularly recurring organism of a very distinct and peculiar shape. He submitted this

micro-organism to a botanist who studied it up morphologically. From its radiating form he called it acteno-myces, acteno meaning sending out rays like a star. It has the following arrangement: There are a number of filaments and these filaments start from a common point, a common center. At the peripheral end of such a filament there is always a club-shaped or pear-shaped body, and it is a pretty picture when you get such an acteno-myces complete. What these pear-shaped bodies are has not been made out yet. Some look upon them as involuted forms, that is to say, forms of disintegration.

This porosity was found invariably in these cases of big jaw. The disease is an incurable one in cattle; the rule is that the porous bone in which these fungi do their work breaks down after a while either into pus or caries. The substance of the tumor will continue to grow until the lump reaches the size of a child's head and even larger, and the animal of course is prevented from mastication, it becomes lean, atrophy occurs, and the inevitable result is death. However, people do not often wait until the animal dies, they kill it, as a rule, and sell the meat. A few years after the discovery of the fungous nature or the microbian nature of this disease, cases were reported of acteno-myces in man. It was found that there were certain cases of disease of the lower maxilla and maxillary gland, characterized by an extremely obstinate suppuration. The clinical picture neither corresponded to tuberculosis nor syphilis, nor any of the chronic suppurations, and since the discovery had been made of this parasite of lump-jaw in animals, a microscopical examination has revealed that there was an identical disease in man.

However, in man the clinical symptoms vary greatly. They are not confined to the jaw; they sometimes appear primarily in the lung, and then they take a course apparently like consumption, or of pleuro-pneumonia, or of empyemia, or pyo-thorax. In some cases they settle in the bronchi and there is a fetid discharge, and the clinical picture is that of gangrene of the lung, or of purulent or septic bronchitis. These parasites have also been found in the liver, and these cases of liver disease simulate abscesses of the liver. They have also been found in the intestine, and one case has been reported of primary acteno-myces of the brain, where all the symptoms pointed to tumor of the brain. There was no other lesion. A mass of the fungi had got into the circulation and formed an embolism of the brain and produced the brain symptoms.

The portals of entrance are the mouth and respiratory tract, especially the mouth. If found in man, a hollow tooth may contain millions of these plants. Of course when they get into the mouth the road into the lungs and respiratory passages is not a very long one, and it is in this way, no doubt, that we must account for their transmission from the mouth to the lung. A very peculiar proof that these fungi are temporarily or permanently inhabitants of the mouth in certain persons, was furnished by the case of a man examined by Prof. Israel, the discoverer of the disease in man. He found in a lung an abscess which was of an acteno-mycetic nature, and in the same patient a hollow tooth that was pretty well filled with them.

The question now arises how does the infection take place and where does the virus come from? A fatal case was reported, in which a general acteno-mycetes followed the extraction of a tooth, and in the cavity which the tooth had previously filled were found a number of these fungi. It seems to be a settled fact that, as a rule, the fungus sticks to certain vegetable growths, and that in this way the fungus is introduced; it seems to stick especially to spurs of certain grains, the spur cutting like a lancet, giving an opportunity for introduction of the micro-organism. This is the view Israel takes, and he is certainly an authority on the subject.

The question has now been raised, is this disease inoculable? It was proven ten years ago that it was inoculable from cattle to cattle. A veterinary surgeon inoculated two calves from a steer and produced the disease. But there is another question. Is the acteno-

mycosis which occurs in man identical with that which occurs in cattle? There are some morphological differences that have been found in these fungi as they occur in man and animals, and even in animals they sometimes differ. There is a great variability of form. Of course pathologists have tried to inoculate other animals with acteno-mycetis as it occurs in man, the material coming from the diseased portions in man, but the most common animals which are accessible for such experiments, dogs and rabbits, prove refractory; they seem to have immunity from the poison and would not take the disease, and it was only after great difficulty that Israel succeeded in transmitting the disease. Some experiments succeeded, but the great bulk of the experiments have failed, therefore it has been claimed by some that acteno-mycesis in man and animals are two distinct diseases, and that the two are etiologically distinct, although they produce the same pathological disease; they have a different germ for their origin. I believe, however, that the great bulk of experimenters are in favor of a common origin, but the majority of them incline to the opinion that infection does not take place from animal to animal exactly, but that it takes place in the manner that I indicated, by the eating of food containing the germs, and the hard portions of the food lacerating the soft parts; for instance, the wooden portion of the vegetable substances producing a laceration, and inoculation taking place in that manner. After it has penetrated the tissue, it spreads through the lymphatics to distant parts of the organism.

This disease is a comparatively new one and in the course of about eight years I think not more than ten cases have been collated. There is no doubt that the disease existed before, but it was not recognized. The probability is that it is a very frequent disease in man, only we are not wont to look for this microbe in chronic suppuration and so it escapes attention; and then, as I said before, very frequently this disease passes for something else; there are clinical symptoms of lesions; there are cavities in the lung, there is expectoration, high fever and general disturbance of the organism and it is very pardonable on the part of the practitioner if he concludes that it is a case of phthisis and not acteno-mycosis.

It is very difficult to determine whether the disease is propagated by diseased meat. Of course there is suppuration; there is a discharge through a fistulous sinus which is formed and the hand which handles the head of the bullock will also handle the meat, and it is very likely that some of the fungi will be left on the meat, which if it is not thoroughly cooked may cause acteno-mycosis.

This is essentially a chronic trouble. It lasts for years before it kills. When it makes its appearance in the tissues it is of a very malignant nature, but it is a local malignity and does not spread like an infectious disease; it does not seem to produce any ptomaines and set up very high fever for any length of time. It is only when vital organs such as the lungs are attacked that fatal results take place. I have never seen acteno-mycosis in man but once and that was not in this country, but I have examined two lungs in which I found acteno-mycosis, but in connection with tuberculosis. I believe that this is something which has never been reported, at least I have never seen such a case reported, or any reference to the fact that acteno-mycosis may be complicated with tuberculosis, and the acteno-mycosis pave the way for the tubercle bacillus. I will state that there was a case that occurred in this country, in a tramp whose lungs I obtained at the city hospital several years ago and although we could not establish the acteno-mycosis within the lung tissue, I found an acteno-mycotic tumor in the cavity. So far as I know only one case of acteno-mycosis has been published in the United States, that is by Dr. Scarritt, who published an article in the *American Journal of Medical Sciences.* I am satisfied that if the attention of the profession is called to the matter and it is looked for, a greater number of cases will be found. There is an acteno-mycosis found in hogs but there the fungus is found in the muscles. Perhaps this is for the simple reason that the cattle are killed before

such infection takes place. I have no doubt it does occur under extraordinary circumstances in muscles and such cases have been mistaken for syphilis of the muscles.

Dr. D. V. Dean.—I think there have been cases of acteno-mycosis complicated with tuberculosis reported. My impression is that two cases of acteno-mycosis in man were reported, in Chicago, two or three years ago, and that there was a good deal of discussion; some thought there was some sensationalism in the matter. I think it is generally recognized that the large termination of the filaments are not characteristic of this vegitation in its normal condition but are the result of degenerations. In liquid blood serum and some other culture media the filaments swell up and die. Bostok cultivated acteno-myces in solid media at a temperature up to 37° C., and inoculated animals successfully with the pure cultures. The latest conclusion that I have any cognizance of, refers this plant to cladothrix the filaments dividing dichatomously with some regularity.

Dr. A. Green.—I cannot see why tubercle bacillus and acteno-myces should not take place in the same subject. We find other infectious diseases where there is more than one kind of microbes growing, multiplying themselves in the same subject. But the practical point in the matter is to determine how we can diagnose the trouble. I saw a case several years ago where there was a swelling of the jaw, and I lanced it and found a few yellow granules, which are actually diagnostic. I intended to take them home and examine them but before I could do so they were destroyed. It being an infectious disease as a matter of course I applied a fluid disinfectant and happily it was not constitutional yet; it was confined to the jaw, and teeth and the antiseptic treatment was effectual. If we meet with a case of this kind and find these little yellowish granules, it is a good plan to take them to a microscopist and have them examined. If you take one of the granules, and press it between two cover glasses, and then stain it with analine water, gentian violet, allowing it to stand 24 hours, or in emulsion analin water one half hour, then place it for 5 minutes in a solution of 1 part iodine, 2 parts iodide of potassium and 300 parts water, and afterwards wash it in alcohol, it will show under the microscope the characteristic formation.

The difference between the disease as found in man and as found in animals, at least one of the differences, is that in man it is far more malignant than it is in cattle, and the reason is this: in cattle it is more local. The tumor caused by it remains, and is localized by it, but in man the tumor soon breaks down and the little spores go further and further into the circulation until pretty near the whole system is infected.

Dr. L. Bremer.—As to the simultaneous occurrence of acteno-mycosis and tuberculosis, Dr. Green asks why this should not occur? The very fact that it has been found shows that there is such a possibility, but the interesting point is to trace the causal relation between the one tumor and the other, and to determine whether one germ paves the way for the other. It is very frequently the case that one infection predisposes to another. Some microbean affections exclude each other, and others seem to work together. So it may be with acteno-mycosis of the lung and tuberculosis of the lung, but I do not believe there are any cases reported in the literature because I have hunted the matter up and I never have seen such a thing mentioned.

Dr. Dean.—I am not positive about the matter, but my impression is that I have seen such cases reported and that I can find the reports; if so I will refer Dr. Bremer to them. The best temperature for the acteno-myces is up to 37° C., or that of the human body, and subjecting them to a high temperature probably destroys them.

Dr. Beggs.—The subject of anteno-myosis has of late years become a matter of great interest, especially as the study of the disease has been considerable. Not the least difficulty has been in the matter of cultivation. As Dr. Bremer has stated, there is some doubt as to whether pure cultures have really been made, although claims have been

made to that effect. It is necessary to make pure cultures in order to assign a proper classification.

I have seen one case in a living man and have made a microscopical examination in another case. The case which I examined contained centers of infection in the brain, in the lung, and in the kidney, in the liver and thyroid gland. In these centers I could find the fungus in the kidney, in the brain and in the liver, but I could find none in the thyroid gland or lung, although I searched time and time again.

These centers contained a number of young growths, and in these growths were to be found no club-shaped extremities whatever, but simply a mass of mycelium, an interlacement of fibrils such as may be seen in almost any fungus growth.

Whether or not they are infectious is a matter of dispute. It is probable the growth is conveyed either through the lymphatics or blood vessels, but which is not known, possibly both.

Dr. Edward Borck read a paper on the Cause of Congenital Club Foot. An argument in favor of the mechanical theory. See Review, Dec. 15, 1888.

Dr. A. J. Steele.—The paper which the doctor has read is very interesting, and he has given it in any entertaining way. About ten years ago the same subject came up in this society. There was a full grown fetus presented, deformed in several particulars, but especially with taliapes. I took the ground that it was caused by a disturbance of the nervous system in utero, and several members agreed with me. Dr. Hodgen, Sr., was present and asked me what proof we had for such theory. The only good reason I could give was that there were other deformities present, and consequently they must have had a central nervous origin. He asked why they might not be due to pressure in utero. That idea was not new at the time, but the neurologists rather had the better of the argument, since then, however, the tide has set the other way, and the theory advocated by the doctor to-night is quite general. It can hardly be called a theory as it is really established that congenital taliapes equimo varus is produced by pressure due to position in the womb, and too, for the reason the doctor gives, and probably not the proper amount of amniotic fluid present, and thus impeding liberty of action. But you may well say if there is no amniotic fluid there has been no liberty of action, and none of the joints have been exercised, and why is it that we only find the foot in deformed position, why not all the joints and limbs deformed? Well, the doctor says the foot is made up of many bones, and these bones having been forced and held in an abnormal position, they have adapted themselves as they grew to that position, therefore they retain it after birth. I would asked him then why do we not also have club hand as well, or why is not the spinal column permanently fleqd if there has been so little amnotic fluid that it could not straighten out? Why have not the vertebral bodies accommodated themselves to this pressure, and therefore the child have a permanently curved spine? 'Tis true the baby's spine is curved, but when it begins to sit upright it takes three or four curvatures which are normal to the adult. I am inclined to believe as before remarked that the deformity is due to pressure. At birth the foot can readily be placed in a normal position. I had brought to me recently a baby only three days old with double congential club foot. The feet were readily placed in a good position, and I did what I have never done before, immediately applied the plaster-of-Paris dressing which remained on two weeks, giving rise to no trouble except that the plaster weakened from the urine dribbling over it, we put it up again and the foot was remarkably improved in this way. I have no doubt that if these cases were placed in the proper position and thus held early, we would find veay few adult cases of congenital club foot, but if allowed to go on until the bones become hardened in their abnormal shape and relations, they are difficult to cure.

Dr. Edw. Borck.—An orthopedic surgeon sees a case, say of five or six or ten

years standing, when the bones have already been shaped and club-foot has been developed more and more after the child began to walk. At that time there may be some paralysis of the muscles, there may be atrophy; he forgets that this child had no paralysis of the muscles when it was born, and says he believes that this club-foot depends upon paralysis of the muscles. That is not the cause of the trouble. It originates in the bony structures.

Now in regard to the spinal column. If you ask what is the natural position of the child's spinal column I say it is straight. Of course we have some children who are born with Pott's disease. I have an aunt 95 years old who was born humpbacked and chicken breasted, and it is probable this trouble was caused by contraction of the uterus upon her spine. She has no tuberculosis. The deformity was caused by mechanical injury.

The trouble might occur in the hand as well as in the foot. When the baby is born the spine is perfectly straight, and it remains so until the child begins to walk, the muscles contract, the iliac muscles make the lower curve and the compensatory curve will come above, but as long as the child does not walk the spinal column is straight.

Dr. Meisenbach.—I had expected to have had in Dr. Borck's paper a full solution of the ofpressure question of the uterine muscle upon the fetus,and that it would go to show in what manner this want of development, if we may so call it, in club-foot takes place. But I have not changed the position I took the other night that the nervous system forms a very important element in producing club-foot. The doctor has not stated the reason why one set of muscles does not contract in the same proportion as the other set in utero. It may be that a peripheral irritation of the nerve endings of one of those muscles may produce a paralyzed state in utero, and thus explain the difference in contraction. In congenital club-foot there is always malformation of the bone, and this would indicate undue pressure on one side of the bone. The bones are all more or less deformed, and you will find a shortening of the tendons, and in order to correct the malformation, you will in the greater portion of the cases find tenotomy necessary.

The doctor states that the trouble is caused through a want of amniotic fluid. How can he prove that. Obstetricians have never told us that in the cases of club-foot which they have delivered there was a want of amnotic fluid in the delivery. As far as I know attention has never been called. The fact that a child is born with an imperforate anus, cleft palate or hair lip is no proof that it could not live in utero where there was very little amniotic fluid. I see no relation between these different deformities and a want of amniotic fluid.

I have in mind a child in which there was cleft plate and club-foot, which goes to show that there was a lack of development in addition to club-foot. I am not ready to accept the theory advanced by the doctor, although it is easily understood that pressure upon one portion of the fetal economy may arrest the development and give rise to this condition of malformation of the metatarsal bone which we term club-foot. But what part the nervous system plays in utero in regard to these muscles that are paralyzed or elongated, if we may term it so, so as to allow the other set of muscles to draw the foot into an exaggerated fetal position, we are not in a position to determine.

Dr. H. Hodgen.—As to congenital club-foot I think the theory advanced by Billroth is the most plausible,that is the non-rotation of the thighs, the knees being forward in utero, and that pressure caused by the uterine walls upon the feet without the power of rotation of the femur produces deformity. The contracted fibrous tissue in general, and the elongated muscles are the result of the position, rather than the cause of the trouble.

That the nervous system predominates or has any special influence in causing the trouble I do not believe. In club-foot I find that the elongated muscles have responded just as readily to the irritation of the electric current or the irritation of a blow as those that are shortened.

As to the influence of the amniotic fluid; I don't think the facts will bear out the theory of the doctors. I believe as many children have been born club-footed where the amniotic fluid was sufficient as in cases where it was deficient. I think there are very few cases published or that can be d where the amniotic fluid was scanty in cases of club-foot.

There was one statement made by the doctor in regard to cutting the plantar fascia, I wish to take exceptions to. I do not think it is necessary. Of course it may possibly be necessary under some circumstances, but I have seen a very obstinate case of club-foot in a boy nine years of age in which there had been three operations performed, in one of which the cutting operation was done, and the tissue contracted again. This was entirely overcome by the use of the screw, Martin's apparatus. I think the cases requiring the cutting of the plantar fascia are very few, and certainly there are very few cases which require the cutting of any tendon except the tendo-Achilles. I never have seen the occasion for it.

Dr. Edward Borck.—I agree perfectly with Dr. Hodgen. We are not discussing the treatment, but the cause of the trouble. In reply to Dr. Meisenbach I will say that the question he asked me is answered in my paper, as he will see by reading it.

## SELECTIONS.

### A NEW STUDY OF LOBAR PNEUMONIA; WITH DEDUCTIONS FROM AN ANALYSIS OF FIFTY-SIX FATAL CASES.

Read by Thomas E. Satterthwaite, M. D., beofre the New York Academy of Medicine.

The principal types of pneumonia were the following: (1) acute lobar pneumonia; (2) secondary lobar pneumonia; (3) embolic lobular pneumonia; (4) bronchial lobular pneumonia; and (5) the interstitial pneumonia of heart disease. Acute lobar pneumonia was first clearly differentiated by Grisolle, a student of Louis and Chomel in 1841, and no work had surpassed his in the completeness of its clinical and anatomical details. This affection occupied a unique position in the catalogue of diseases, for, both anatomically and clinically it was unlike any known disease. It had also been called croupous pneumonia from the fact that fibrin, which constituted the chief characteristic of a croupous or membranous exudation, was a very regular occurrence in the exudation which filled the vesicles. The inutility of the term croupous was clearly shown, however, by the fact that croupous and catarrhal processes might be combined in any example of pneumonia, whether lobar or lobular, and might also be associated with certain chronic processes, such as phthisis or syphilis.

Acute lobar pneumonia was the most common variety of pneumonia, and Dr. Satterthwaite's statistics sustained those of Fagge, which showed that it was chiefly a disease of the male sex. When the disease originated in one lung the right was usually selected, and where both lungs were attacked the second lung was rarely involved until the affection in the first had gained some headway. Having described the stages of engorgement, red hepatization and gray hepatization, Dr. Satterthwaite went on to speak of the symptoms and the physical signs. Fine crepitation, he said, while one of he most important early signs, was not a positively essential one. Occasionally this sign lasted the entire length of the disease. In referring to individual symptoms, he said that in his cases pain in the side usually preceded the chill. In old people the cough might be absent, and in two of his cases there was no expectoration at all. In fifteen the sputum was either bloody, blackish, rusty, or greenish; often groups of instances had been observed in which it was uniformly colorless throughout the disease. Albuminuria was quite common, though not as frequent as in the interstitial pneumonia of heart disease. Dr. Satterthwaite was convinced that if the urine received the attention which it deserved a nephritic implication would be found more frequent

than now appeared from the statements of writers on this topic. His statistics showed a less amount of nephritic trouble than actually existed, since his cases were all in hospital patients, who were often brought into the wards in a moribund coudition, and it was manifestly impossible to secure the complete evidence on this point that was needed for statistical purposes. Yet they showed a percentage of 41, and in 5% of this total there was chronic kidney disease of long standing. In 8% only did it positively appear that there was no renal implication, as shown by clinical and post-mortem evidence; and there was positive evidence of acute kidney disease in 36% of the cases. So far as the kidney was concerned, however, we had more to fear from the acute exacerbation of an old nephritis when the damaged organ was suddenly called upon to do vicarious work for which it had little capacity.

As to the diagnostic value of fine crepitation, he said that he thought it was now generally admitted in the best quarters that this sign was heard not only in the several types of pneumonia, but also in pulmonary phthisis and syphilis, or even in bronchitis, as Andral claimed. The pain in pneumonia, which was most frequently referred to the nipple and next to this to the base of the lung, was due to pleurisy. The highest respiration met with by Dr. Satterthwaite in his cases was 64, and there was uniformly a high ratio between respiration and pulse. Thus, while the pulse was never more than double the normal, the respiration was often three times the normal, and in an average of seven cases was about twice the normal. The highest temperature in his cases was found to be 108°, and at death the lowest 100.2°. In ten the highest average temperature was 104.3°. The crises usually occurred between the third and eighth days, or, more accurately, between the fifth and seventh days. His statistics showed that the fatal issue, if it came, might occur on any day of the disease (always within two weeks), but that the danger was greatest about the end of the first week, or in reality on the sixth day. This fatal day corresponded with the date at which the crises occurred, according to most clinicians.

The immediate cause of death was usually heart failure, the heart muscle becoming exhausted from the prolonged and exhaustive work it had to perform, or, indirectly, through the influence of poisoned blood upon the nervous centers. In rare cases (two of which had come under his observation), the respiratory nerves would yield, and respiration would stop, though the heart proceeded.

Some late writers, like Ziemssen, thought exposure to cold a very infrequent cause of pneumonia; but if we noted the time of the year at which the affection was prevalent, we at once realized that it was a disease of the late autumn, winter and spring months. In thirth-six of Dr. Satterthwaite's cases twenty-seven fell between October 1 and June 1, and only seven in the remaining four months.

There were at least two varieties of acute lobar pneumonia, the first being a sort of epidemic form which might be called pythogenic, sometimes associated with diarrhea or dysentery, where persons had been crowded together and compelled to inhale foul air. The second was due to cold, and there were probably other causes also. In speaking of the alleged bacterial origin of the disease, he said that it appeared that none of the observers who claimed to have demonstrated this had complied with Koch's law as to the determination of whether or not a given microbe was the cause of a disease, viz., first, its successful culture apart from the body; second, its successful inoculation on the body, with the subsequent production of a pathological condition the counterpart of the disease in a given organ. Thus, he said, it would be necessary to show that a pure culture inoculated upon the blood remote from the lungs produced lobar pneumonia. Experiments, however, had almost always failed in this respect, and it had been found necessary to inoculate the lung tissue, where any foreign substance would, if injected, produce pneumonia. But in such experiments it was lobular, not lobar pneumonia that commonly resulted.

Pleurisy was a complication that was to be expected. The pleuræ were always involved when inflammation reached the surface of the lungs, so that pleurisy was never absent, except in such rare cases as when the disease was central. A comparatively frequent complication was pericarditis, which developed either by an extention of the diseased process or by a simultaneous implication.

As to the mortality of pneumonia, he said it was profitless to give statistics in a general disease like pneumonia unless we knew (1) the variety, (2) the decade of the patient's life, and (3) the general character of the attack. Lobar pneumonia had quite a different mortality rate from either variety of embolic pneumonia, the cardiac or the pyemia. The rate was also probably different in childhood, in adult life, and in old age. Having given the statistics of various writers as regards mortality, he said that after a brief study of these or any other similar statistics it would be seen that their variation was to some extent a natural one; and though it was ostensibly true that the expectant plan was the most successful on the whole, still the results were by no means uniform in the hands of the same person. Admitting, however, that these statistics were of value, we had evidence that the so-called expectant plan of treatment was the best. He believed that we had passed the period when it could be successfully shown that we could arrest the disease. We did, indeed, sometimes meet with cases of pulmonary congestion in association with cardiac or renal disease of malaria, that presented some of the signs of lobar pneumonia; but the prompt relief by stimulants or antiperiodics taught us the nature of the congestion.

The cause of death also indicated the obvious direction in which main efforts were to be made. It was not so much towards reducing the temperature as towards sustaining the heart; next to obviating renal complications. Hence our clinical, supplemented by our pathological, data did point out the line of treatment. Dr. Satterthwaite doubted whether the high temperature in pneumonia was in itself a demon that we must attack and overthrow; and said he had been led to relieve, by post-mortem studies, that the use of antipyretics not only weakened the heart's action, but had some unfavorable action on the kidneys. It seemed to him that since the introduction of the newer antipyretics the renal implications had been greater than before.

As regards treatment, he had often seen benefit from copious and repeated cuppings in sthenic cases. In less vigorous persons he had seen relief follow upon cold water applications. In cases of defective hepatic action mercurials in large doses might give relief. In patients with weak hearts he had seen the case carried safely through with alcoholic stimulants; while in renal complications he had seen marked relief to the pulmonary symptoms from remedies chiefly addressed to the kidneys. Reduction of temperature was indeed a relief to the patient; but it seemed to him that it was safer to accomplish this through the simpler remedies, which caused diaphoresis, rather than by those which acted more promptly, but whose secondary effects were, to say the least, of doubtful value.

SECONDARY LOBAR PNEUMONIA.

Dr. Satterthwaite thought there was a positive advantage in retaining this subdivision of lobar pneumonia, which was recognized by the old French school, and had been approved by prominent clinicians up to the present day. In the nineteen post-mortem cases from which he had drawn his conclusions there was seen to be a line of phenomena which plainly indicated certain differences between the primary, or acute, and the secondary forms. In secondary pneumonia the ordinary clinical signs were either masked by the concurrent disease, or were so ill defined that the pulmonary attack might pass unnoticed; and so it happened that sometimes even in our best hospitals this affection might first be detected at the autopsy. The attention of the physician might not be directed to the pulmonary complication because the patient himself had not had his own attention directed to it. Such things happened with old people; or it might be that a physical examination of the chest

was impracticable. He had observed the following antecedent conditions in secondary pneumonia, nephritis, alcoholism, phthisis, burns, rheumatism, fracture of the ribs, hypertrophy of the heart, pleurisy with effusion, and pericardial effusion. He had found it in contemporaneous connection with the following affections: abdominal dropsy, pericardial effusion, gangrene of the extremities, bronchitis, syphilis, endocarditis, hydrothorax, and aneurism of the aorta. Neither phthisical or syphilitic processes had any apparent connection with the pneumonia, and in fact, all cases in which there was any suspicion of phthisis or syphilis as possible causes of the lobar pneumonia were thrown out of the computation. Secondary pneumonia seemed to be most common in winter, and no one of his nineteen cases occurred between May 1 and October 1.

The disease was usually insidious, and the chill was frequently absent, probably not occurring in one fourth of the cases. While the pain in the side might be absent and the difficulty in breathing might not be marked, the crepitant râle could be heard, as a rule. The temperature would rise rapidly, as in acute pneumonia, but it would average somewhat lower; though the temperature might not indicate the severity of the attack. The pulse also averaged lower than in acute pneumonia. Bronchial breathing and dulness might be the most decided symptoms, and they are the most common in his experience, being noted in about 70% of the cases. The expectoration was apt to be scanty, and often afforded little help in the diagnosis. He had noted it in only about one third of his cases, when it was either bloody, rusty, or black. Renal symptoms were apt to be more prominent than in acute pneumonia. As indicating the difference in the type of this variety of pneumonia, there was found a decided tendency to suppuration.

The duration of secondary pneumonia was about the same as acute pneumonia, but the crisis was apt to come earlier, because the patient was already exhausted by the antecedent trouble. Hence he found that out of fourteen cases eight died within forty-eight hours, and that the period of the greatest danger was between the second and third days. The immediate causes of death were attributable mainly to the same three conditions that are prominent in acute lobar pneumonia, viz., (1) heart failure (in about one half the cases), (2) uremia, and, last and least, respiratory failure from the toxic influence of the unhealthy blood on the nerve centers. These facts, he thought, sufficiently indicated the proper line of treatment.—*Bost. Med and Surg. Journal.*

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## SOME PHYSIOLOGICAL EXPERIMENT

*The Cerebral Hemispheres.*—Goltz has investigated the condition of a dog from which the left of the cerebrum was removed; the observations continued for over a year. The animal could move all its muscles voluntarily in walking, jumping, and running. It took bones between its two front paws like a normal animal, but used only the right paw as a "hand," and raised only the right hind leg on passing urine. The whole right side of the body showed diminution of sensibility both as regards ordinary sensation and the sensation of temperature. There was no lasting effect on the muscular sense. There was hemiamblyopia (right) and also a diminished central vision, as the animal took no notice of threatening motions with the hand or whip. The hearing was also less acute, and there was distinct loss of intelligence, the former playfulness and liveliness being lost. The same results were obtained in animals in which the cortex alone in great part was removed by washing away. Goltz concludes that each half of the brain is connected with all sensory parts of the body. The second part of the paper is occupied with the sequence of removal of large symmetrical portions of the frontal lobes. There is a great loss of power of motion. The animal does not attempt to run or jump, and all locomotive movements are very clumsily performed. No food is voluntarily taken; but when placed in the mouth it is chewed and swallowed. The

fore-paws are not used as hands; but no muscle is really paralyzed. Sensation is everywhere present, but diminished. After removing both posterior portions of the hemispheres, Goltz has found functions of sight preserved, since the animal advoided obstacles with safety; but the brain-power is weakened. There is a general deficiency in correctly performing movements. The animal can find its own way. The animal also becomes quite mild in disposition, even if it were bad-tempered previous to the operation.

*The Occipital Lobe in the Monkey.*—From electrical stimulation of this part of the brain, Ferrier was unable to obtain any movement. Excitation of the angular gyrus produced conjugate deviation of both eyes to the opposite side, with occasional upward or downward movements; these latter movements were not obtained by Luciani and Tamburini in their experiments.

Schaefer has reinvestigated the subject,and in a paper published in the proceedings of the Royal Society, states his conclusions as follows: Electrical stimulation of the posterior limb of the angular gyrus, of the upper and of the middle temporal gyrus, of the whole cortex of the occipital lobe (including the mesial and under aspects), and of the quadrate lobule, produces conjugade deviation of the eyes to the opposite side. The movement is not simply a lateral deviation, but is accompanied with an upward or downward inclination.

The area of brain stimulated is divided by Schaefer into three zones, a superior, an inferior, and an intermediate zone, for the exact positions of the cortex included in these zones, the original paper must be consulted. Excitation of the superior zone causes, besides the lateral deviation, a downward inclination of the visual axes, which is sometimes greatly marked. Excitation of the inferior zone causes an upward as well as a lateral diviation, while stimulation of the intermediate zone produces only a lateral movement. The upward and downward inclination of the eyes is often accompanied by a movement of the eyelids in the same direction. Simultaneous stimulation of the corresponding points on the two hemispheres produces a struggle between the muscles causing the lateral movement, so that the eyes simply quiver.

The movements occurring on excitation of this part of the brain Schaefer considers as the result of the production of subjective visual sensations, and if this is the case, the following conclusions may be drawn: First, that there is a connection of the whole visual area of each hemisphere with the corresponding half of each retina. Secondly, that there is a connection between the superior zone and the superior part of the corresponding lateral half of each retina; thirdly, a similar connection between the inferior part of the corresponding lateral half of each retina; and lastly, that the intermediate zone is connected with the middle part of the corresponding lateral half of each retina.

In another paper, Schaefer states that conjugate deviation of the eyes to the opposite side may be produced by excitation of six different parts of the cerebral cortex as follows: An area in the frontal region of the hemisphere (included in the motor zone); the superior temporal gyrus; the upper end of the middle temporal gyrus; the posterior limb of the angulas gyrus; the whole cortex of the occipital lobe, including its mesial and under surface; and lastly, the quadrate lobule. These areas, however, are not all functionally similar; there is this important difference between the frontal area and all the rest, namely, that if it be removed, paralysis of the ocular muscles producing the movement specified results. This frontal area may then be considered as directly influencing the centre of origin of the nerves to the eye-muscles, while the other regions, stimulation of which produces ocular movement, are to be considered as causing this movement only by producing subjective sensations of vision. Now if there is this great difference of function between the two areas mentioned, the period of latency, that is, the time elapsing between the moment of stimulation and the resulting move-

ment would be greater in the areas in the occipital lobe than they would be in the frontal area, because of the extra nerve-centre or centres through which the stimulus must pass. Schaefer has discovered the important fact that the period of latency is longer in stimulation of the occipital lobe by several hundredths of a second than that of stimulation of the frontal area, thus confirming the conjectures as to the different functions of these areas. Into the other important papers published on the physiology of the brain there is not space here to enter. This is the branch of the subject in which progress is being rapidly made, especially in England. For papers other than those mentioned, we would refer to Horsley and Schaefer's work on the "Functions of the Cerebral Cortex," and to Horsley and Beevor's "Analysis of the Motor-area Centres," both of which researches have been published in the Physiological Transactions.

*Circulation.*—If the motor nerve be cut, or if the nerve cells in the anterior cornu of the spinal cord be damaged, nutritive changes occur in the muscle which the nerve supplies. The muscle fibres atrophy, and there is an increase of intestinal connective tissue. The influence of nervous involuntary muscle is not accurately known; and the question of a similar influence over the heart muscle, which in structure and function may be considered as intermediate between voluntary and involuntary muscle fibres, is one of great importance. This subject has been investigated by Fantino in the Pathological Laboratory, of Turin. Eichhorst had previously found that in pigeons the section of both vagi caused an acute fatty degeneration of the heart muscle, so that the animal died from the cardiac disease. Eichhorst thought this a trophic action; but, although Zander obtained the same results, he placed a different construction on them, interpreting the accompanying loss of body-weight as a result of section of the nerves, and as a direct cause of death.

Fantino used rabbits and guinea-pigs in his experiments, selecting only young and healthy animals who were not with young, operating under strict antiseptic precautions, and cutting out a piece of the nerve, so that no reunion could take place. Section of both vagi in mammals causes, as is well known, inflammatory condition in the lungs with fever, the animal soon dying; so that, for the purpose of physiological experiment, only one vagus can be divided, thus obviating the access of lung-changes and of fever. In this case the operation does not affect the health of the animals after the initial stage is over. They were killed at times varying from two to thirty days after the section. In forty-eight hours after section of one vagus, changes are noticed in the myocardium. There are whitish-yellow spots of of varying size on both sides of the ventricular septum, in the musculi papillares and on the outer surface of the heart, along the grooves occupied by the coronary arteries.

Microscopically, the striation of the muscle fibres is less than normal, and the fibres have irregular borders, are swollen, and are filled with numerous albuminoid granules. Many fibres have no nucleus, and many nuclei are rich in chromatin, and are irregularly shrunken. Between the fibres are collections of round cells, especially near the vessels. If the animal has been allowed to live till the sixth to the tenth day, this interstitial round-celled infiltration is more marked, and progresses to the formation of patches of dense connective tissue, which may be seen with the naked eye. In fact there is fibrosis of the heart. *Pari passu* with this fibroid change, there is a degeneration of the muscle fibres, which lose the nuclei and become atrophied, either simply or with fatty degeneration. These changes, as will be seen, are precisely similar to those occurring in voluntary muscles after section of the motor nerve; and as they are not accompanied by any apparent ill-health of the animal (no loss of weight), Fantino concludes that the vagus exercises a trophic influence over the cardiac muscle. Section of the other cardiac nerves in the rabbit, the sympathetic and the depressor, does not produce any change in the heart muscle, so far confirming the conclusien arrived at.

Tigerstedt and Stroemberg have investigated the venous sinus of the frog's heart by isolating it, and passing a current of diluted blood through it by means of the frog-heart manometer. The medium frequence of the sinus is forty to forty-nine a minute, just like that of the whole heart, though it is much greater than that of the isolated auricle, which Loven found to be only fifteen a minute. Raising the temperature to 31° C. makes the pulsation so rapid and small that it cannot be counted. Tetanising the sinus causes great acceleration, up to 493 per cent. of the normal. A single stimulation right through the sinus is without effect if made during the systole; but at the commencement of the diastole it causes an extra pulsation, so that the pulsation becomes dicrotic. On the whole, the results obtained with the sinus are similar to those already published by others on the complete frog's heart. MacWilliams has investigated the rhythm of the mammalian heart, and among his conclusions the following may be mentioned- The minimal stimulation of the quiescent cardiac muscle (of the cat, dog, rabbit, rat, hedgehog, and guinea-pig) is at the same time maximal; that is, a stimulus which is strong enough to excite contraction at all, excites a maximal contraction. This point was tested on the excised heart, which though not beating, was still artificially excitable; on the intact heart made quiet by vagus stimulation; and on the heart rendered slow by cooling it. Moreover, the condition of fibrillar contraction, or heart-delirium as it may be called, induced by the application of interrupted currents to the ventricle, may be recovered from even after three-quarters of an hour; the means used for restoration being artificial respiration, rhythmical compression of the ventricles, and the administration of pilocarpine.

An interesting fact brought out in these experiments is that "when the excitability of cardiac muscle has been much depressed (by pilocarpine, etc.), the application of interrupted currents does not induce fibrillar contraction, but merely a series of rhythmic beats in the case of a quiescent organ, or an acceleration of the rhythm already present in a heart which is beating spontaneously." MacWilliam has also published experiments on the effect of increased arterial pressure on the mammalian heart. The rise of pressure was produced by clamping the last part of the thoracic aorta for a period of four to eight seconds. If the clamping be continued longer, convulsions occur. The results obtained are divided into two classes: the effect of the rise of pressure on the heart when the medullary cardio-inhibitory mechanism is intact, and when the vagi are divided so that the medulla has no effect in inhibiting the heart. In the first case, as Marey has shown, the cardiac beat becomes slow; MacWilliam confirms this, and further shows that the strength of the beat is increased, and afterward that the auricular contraction become strikingly less, and does not recover till some time after the blood-pressure has fallen to the normal. Thus the effect on the ventricular systole is strong when the auricular has become weakened. These changes are brought about by the cardio-inhibitory centre in the medulla and by the vagus nerves, for if the latter be cut, the effects observed on a rise of blood-pressure are totally different. The heart's rhythm is not altered, except perhaps slightly accelerated; there are none of the changes above described in the strength of contraction. If the heart is vigorous, the force of the beat is increased; but if weak, the ventrical is in a state of partial tonic contraction, being unable to completely empty itself. These chnges seem to depend on the properties of the heart itself.—*Brit. Med. Jour.*

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## THE VALUE OF JABORANDI AND ITS ALKALOIDS IN THE TREATMENT OF BRIGHT'S DISEASE.

Y J. G. MARSHALL, B.A., M.B. CANTAB.

The value of jaborandi and its derivatives in the treatment of the dropsy of Bright's disease cannot be over-estimated. By its use I have relieved in several cases some of the distressing features of this complication, and

prolonged or rendered less painful the termination of life in others; but in none has the drug been exhibited with such satisfactory results as in the following case:

S. D., æt. 19, fisherman, came under my care in September, 1887. A dropsical swelling of the loose tissue in front of the neck, giving him the appearance of having a "dewlap," was the first symptom that excited the attention of his friends. This had existed for two or three months before the patient came to me. He had no other feeling of discomfort; gave no history of chill, lumbar pain, or noticeable disturbance of urination. He found his breath a little short when pulling his oar—that was all, so he said. On being stripped, there was no edema of the legs or scrotum, and his mother, a very intelligent person, declared that his face or eyes had not been observed to be swollen at all. The urine was pale, sp. gr. 1012, and when treated with heat and nitric acid became almost like a blanc-mange, as nearly approaching the condition roughly described as "solid with albumen" as could be. How long this condition had persisted I could not say, but he was then following his usual calling as a boatman, often pulling a heavy punt about for an hour at a time; he was also carrying a number of buckets of water daily up a hill with a yoke and chains. I ordered him confinement to the house, and to be kept warm, giving him a dose thrice daily of steel, digitalis, and nitrous ether. Immediately on treatment being commenced other symptoms minifested themselves, the legs, ankles, and face becoming swollen, the pulse weaker and more frequent, and he looked a "renal subject," which he did not before.

After a short time of treatment at home, during which matters mended not a bit, he was, by his friends' desire, transferred to Dover hospital, where he remained for more than three months. While in the hospital differents methods of treatment were employed, and at one time the patient seemed decidedly better, but he contracted a cold, and then became worse, and it seemed doubtful if he could live to return home. In the second week of February I was sent for by the patient's father, and found him exceedingly ill. He was proped up in bed, and dropsical from head to foot; his eyelids, which were distended with effusion, completely closed his eyes. His face was livid, and the swollen condition of the cellular tissue of the neck made it almost as broad as his shoulders. He coughed incessantly, there was copious intra-thoracic effusion, and the subcutaneous tissue all over the chest was "doughy" to the touch. His abdomen was as big as a barrel, and there was extensive edema of the genitals. His legs and thighs were enormously swollen, and water was exuding from them. He was passing a very small quantity of urine, which was of a dirty color, and loaded with albumen. As a last resource, but without expecting much from it, I determined to try the subcutaneous injection of hydrochlorate of pilocarpin, and the next day I gave two injections of a quarter of a grain each, one in the morning and the other late in the afternoon. After each dose I covered the patient thickly with blankets. The first effect was a flushing of the face, the saliva was secreted copiously, and within five minutes he broke out into a profuse perspiration. After the first injection he expressed himself as relieved, and he certainly coughed less. On my visiting him the next day, the lad's appearance was improved; he could see out of his eyes, he had passed a fair night, and the dyspnea was lessened. I continued two injections daily for three or four days, and after each administration he sweated most profusely. I found he became very faint soon after the injection, and to counteract this I gave him a good dose of gin-and-water before the next one, and repeated this each time afterward, when he never complained of faintness. Vomiting also occurred, once or twice severely, which induced me to lower the dose to one-fifth of a grain, which I injected daily for nine or ten days. The improvement, which commenced early, was well maintained. At the end of a week he could sit up in bed, the cough was much less, the thoracic effusion had completely subsided, and his arms and neck were

becoming less edematous. The patient longed for my visits, and always expressed himself as feeling better after a "jolly good sweat." At the end of a fortnight his upper parts were free from effusion, but the abdomen was still much distended, and I hardly believed that we could get rid of an accumulation which at one time threatened to rupture the skin, and which it seemed that nothing but tapping could relieve. I then administered one-fifth of a grain on alternate days, and kept this up for another fortnight. He was then passing his usual qantity of urine, the albumen much diminished in quantity, he sat up daily by the fire, and there remained but a little swelling of the abdomen and legs. I continued the injections till the remaining dropsy had subsided. The improvement was maintained,and,under a diet of plenty of milk and the administration of steel and convallaria majalis, he was able to go out of doors and enjoy life with comfort.

I cannot say that the case is cured, as there is still about one-twelfth of albumen present in the urine, and the legs occasionally "pit" slightly on pressure. But the lad looks extremely well, his appetite is good, he can walk up a stiff hill without losing breath, and cannot believe that anything is wrong with him. I think that the almost miraculous improvment which followed the use of pilocarpin is worth recording, and (when one considers the usual helplessness of a condition such as I have described, in a patient of this age and from such a cause) that jaborandi and its alkaloids must occupy the first place among known therapeutic agents in the treatment of cases of this kind. I have had good results from the use of infusion made from the leaves of jaborandi, and drunk hot like ordinary tea; but the drawback appears to be the nausea so easily excited in these cases.—*London Lancet.*

## HYSTEROMYOMECTOMY.

BY HOWARD A. KELLEY, M. D.,
OF PHILADELPHIA.

[Dr. Howard A. Kelly read a paper before the College of Physicians of Philadelphia, on the 3rd inst., on a case of what he terms "supra-pubic hysteromyomectomy," in which tbe uterus was removed with the tumor, followed by very rapid recovery in a patient of uncertain age (she was an Irish woman, and was somewhere betwen 60 and 80 years old). He described the operation as follows:—]

"First, after due hygienic preparation of the patient, and careful regulation of the emunctories, she is brought to the operation; which is conducted throughout with all the antiseptic precautions at present adopted by wise surgeons the world over. She is anesthetized; the incision is made, and the tumor freed and delivered. If necessary the broad ligaments are tied off down to the base of the tumor, which is then thightly constricted with the rubber ligature. The body of the uterus, with the tumor, is then cut away above this, leaving the upper surface of the stump concave. The cervical canal is then burnt out with the cautery, and the raw surface of the stump is now obliterated by rows of stout, buried sutures, one above the other as in Schroeder's method. The last row brings the peritoneal surfaces together,leaving a linear wound. The last row of ligatures approximating the edges of the wound are interrupted, and should be left long, at least temporarily. Grasping them all together, and pulling to the right, the left border of the stump is brought into view. The operator then takes a needle armed with strong catgut, and passes it deeply through the uterine tissue, from before backward, tying these very tight, and thus ligatures the left uterine artery. Reversing this movement, the right uterine artery is also tied. The rubber ligature is now cut, and the stump carefully watched for hemorrhage. Should any occur, a second ligature must be thrown around the uterine artery, on one or both sides, passed just above or below the other, still deeper into the uterine tissue. The abdominal wound is then closed, from above downward, as far as the stump, the peritoneum carefully cleansed, and a drainage-tube left in, just above the stump, if thought neces-

sary. The next step is the most important one, separating this method from Schroeder's. About the deep uterine ligatures, but below the united lips of the stump, the visceral and parietal peritoneal surfaces are united, as in Hegar's operation, by a series of interrupted sutures, left long. The appearance of the abdomen then is that of a long wound closed down to its lower angle, where it is left open to its peritoneal surface. Plugging the opening into the peritoneum is a small wedge-shaped prominence, formed by the united lips of the stump. The dressing is simple; bichloride gauze, which has been preserved in alcohol, is wrung out in warm water and packed in around the stump. A large piece of gauze, with a slit in the lower angle, is laid over the whole. Through this slit the row of interrupted ligatures, uniting the stump and the abdominal wall, and the line on the face of the stump, are brought and grasped in the bite of an ordinary pair of long-nosed artery forceps. Over this, cotton and the bandage are placed. By this means the raw surface of the stump is disposed of, dangerous hemorrhage is avoided by the ligature of the uterine arteries, and the contamination of the peritoneum is avoided by keeping the only possible channel of escape for any oozing of blood just without the peritoneum. Should any hemorrhage occur, in spite of the precautions used, it is under full control, at once, by grasping the long ligatures and forcibly lifting the stump, when, if necessary, it can even be transfixed or clamped. The stump is held in situ by the forceps, which efficiently replace transfixion pins. The after course should be one of recovery as undisturbed as after the simplest ovariotomy The ligatures are all removed in from seven to nine days, and the granulating pit packed until it has cicatrized."—*Boston Med. and Surg. Jour.*

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## INEXPENSIVE CELL FOR GALVANISM.

BY A. H. BUCKMASTER, M.D., OF BROOKLYN.

Up to within a quite recent period the use of electricity in a scientific manner was relegated to the neurologist. The gynecologist has awakened to the possibilities of this potent agent, and, while there are some who believe they can use the current without a school-book knowledge of electricity, many are giving their earnest attention to the subject. Many are deterred from testing its merits on account of the cost of the necessary paraphernalia, and of this the cost of the cell itself is no small item, and it is for the purpose of showing how a battery may be made at home at a comparatively slight cost that I trespass upon your time this evening. The glass jar is a common fruit-jar, and can be bought in cases of eight dozen at a cost of about four cents a piece. It is only four inches in diameter, so that it may be placed on shelves between the jambs of the windows, etc., without projecting into the room in an unsightly manner. The jar holds a quart of fluid. The cover consists of six discs of pasteboard of two sizes tacked together. The three lower ones fit into the mouth of the jar, and the three upper and lower ones project slightly over the sides. There are two perforations in the cover to permit of the passage of the carbon and zinc. The aperture for the carbon is best made with a chisel, and that for the zinc can readily be made by a hollow punch. The zincs are six inchs long, and have a transverse aperture near the end. A thread for a screw passes from the end, so that when a wire is passed through the aperture a few turns make it fast. The cost at wholesale of these zincs is about four cents. The carbons, $5^3/_4 \times 1^7/_8 \times 1/_4$, cost about six cents. Each should be bored near the top with a bit that is of uniform diameter, to make an aperture for fastening the wire. The exciting fluid is chloride of ammonium in solution, and it is sold in quantities for this purpose as about ten cents a pound. Two to three ounces is enough for each cell. If to this list we add the wire necessary for making the connections, we have all that is required for the construction of the battery.

A battery, to be useful to the gynecologist, should conform to the following conclusions:

1. The electro-motor force should be fairly constant.

2. It should not work on an open circuit.

3. It should be simple in its mechanism, so that the operator may readily provide for any irregularity in its working.

This cell conforms well to these requirements. The verdict of professional electricians to whom I have showed it has been that it would do the work required very well, but that perhaps more surface of carbon might make it more durable. If this should prove to be true, it would be a very simple matter to use two carbon plates with the zinc between them.—*N. Y. Med. Jour.*

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## THE PASTEUR INSTITUTE.

A Paris correspondent writes the *N. Y. Med. Jour.*:

Monsieur Pasteur is the hero of this week again, as he has been often in medical circles of late years. On Tuesday the magnificent edifice that bears his name was opened by President Carnot, thus crowning the triumph of the great French chemist. The Pasteur Institute has been completed by public subscription, which, by the way, leaves a substantial balance to the credit of the institution after all the expenses are paid. The architects and many of the workmen would not accept any pay, so that the whole amount subscribed having been 2,587,680 fr., there remains a balance of 1.022,894 fr. after paying all bills. This capital ought to maintain the establishment for a long time to come, and prove or disprove the efficiency of the inoculation treatment in hydrophobia. We can only wait and see what the ultimate result will be. Notwithstanding all that is said against it, of people dying of rabies after the treatment, etc., it is still a comfort to the victims of dogs, and time alone can tell if it is really of value. The new buildings erected are two handsome edifices, quadrangular in shape and four stories high. They stand in an attractive garden in the upper part of the city, and have every possible appliance for study—chemical laboratories and class-rooms, as well as operating-rooms—alongside of the inoculation hall. Outside there are stables and a large number of dog-kennels. All the buildings are plain but substantial, and the interiors are decorated with massive oak ceiling and panels. In fact, everything is admirably adapted to the purpose of the institution. Modern times have never seen such a tribute to talent, and it is to be hoped that great results will be achieved. The opening ceremony was quite French; the spacious library was crammed to suffocation with the *elite* of Paris, the celebrated Republican Guards Band played the "Marseillaise," while the Presindet with his attendants arrived at one o'clock, and the speech making began. M. Pasteur's forty years of labor in the cause of humanity and his great merits were glorified to the full by several speakers, including Professor Grancher, who is professor of children's diseases at the faculty and physician to the Infants Hospital, but he also has been the one who has done the larger part of the inoculation, as Pasteur, not being a physician, had no right to perform any operation on man. During the delivery of the laudatory speeches M. Pasteur was deeply moved, and while the record of his struggles was narrated he was completely overcome, and the tears coursed down his cheeks, so that when his turn came to speak he could not do so. The President of the Republic held his hands, and quite in French style they both cried and embraced one another, while many in the audience did the same. All the same, it was an interesting sight, and we must hope for the result of M. Pasteur's eloquent words (they were read by his son in his place). Two opposing laws, he said, appeared to be engaged in a death struggle—one of war and blood (in Europe), that was daily devising new weapons of destruction, and another of peace, labor, and security, that only thought of delivering mankind from the ills to which flesh was heir. "May the latter win, and certainly French science will never be forced in obeying the law of humanity to set the limit of human life further back."

## DISCUSSION OF A PAPER ON CEREBRAL SYPHILIS AT THE NEW YORK ACADEMY OF MEDICINE.

Dr. Landon Carter Gray said that if we started from the prime anatomical lesion of syphilis, the round cell, we could get a better idea of syphilitic developments. It was a characteristic of the syphilitic round cell that it had an enormous vitality. It would live for a long time in the system, and would undergo retrograde metamorphosis without the formation of pus. As long as the cell caused no structural disease by its presence the prognosis was favorable. We did not yet know all the forms of cerebral syphilis, but some of them were sufficiently familiar. There might be in the first place a chronic interstitial encephalitis, scarcely distinguishable from that of general paresis except by its slower progress. Secondly, there was pseudo encephalitis, in which there was great danger from sudden death. In other cases the disease attacked the arteries. Precisely what the lesion was we did not know, but there did not seem to him to be anything pathognomonic about the affection. Finally there was an implication of the meninges; (1) of the dura, causing headache; (2) of the pia, involving the cortex.

In the majority of instances, it was necessary to make the diagnosis from the conditions found in the brain, rather than from evidences of syphilis derived from other sources; and in a paper which he read last year before the Philadelphia Neurological Society, Dr. Fray said he had cited certain groups of symptoms which might fairly be regarded as indicative of specific infection, although they afforded only proof amounting to a presumption. These spmptom groups were as follows:

1. Quasi periodical cephalgia of a peculiar kind.

It was relieved by iodide of potassium and mercury, but not by opium. It might be accompanied by obstinate insomnia and by considerable irritability of temper. In this headache quinine was often of as much benefit as in cases not syphilitic.

2. Hemiplegia under forty years of age.

3. Cephalalgia, followed by hemiplegia, which has a singular relationship to one another, in that the cephalalgia ceases immediately upon the supervention of the hemiplegia, and does not recur.

4. Convulsions in the adult, which have not been preceded by convulsions in infancy, and are not of traumatic or nephritic origin, or due to pregnancy, or in an individual subject to migraine.

5. Symptoms indicative of a lesion at the base of the brain.

Of course, tuberculosis had a predilection for the same site, but it could usually be excluded by the history of the case. Tumors of non-specific origin might also be found there, but usually they are not so diffuse as a syphilitic infiltration, and the specific lesions of this part of the brain are generally preceded by a characteristic cephalalgia.

6. A comatose condition extending over days or weeks, not traumatic, meningitic, diabetic, nephritic, or from typhoid fever.

Dr. C. L. Dana said that the symptomatology of cerebral syphilis was very difficult, but from the contributions that had of late years been made to the subject, we could now form a pretty corect picture of it. The pathology, however, still remained in a very unsatisfactory state. He could not believe that the lesions which are observed were due to Dr. Gray's round cell, since this anatomical factor was common to other conditions and affections. In the cases that he had seen there were four different forms of lesions.

They are: 1, local hyperemia; 2, local meningitis and gummatous changes; 3, cranial root neuritis, or neuritis itself; 4, degenerative changes resembling those from other causes.—*Med. Rec.*

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Judges and Medical Witnesses.—The *Dundee Anvertiser* calls attention to some absurdly severe observations by Lord Fraser upon medical witnesses in an action for damages arising out of an accident which recently came before him. The medical witnesses appear to have irritated his lordship

extremely, and he attacked not only those before him, but medical evidence in general. "Medical men," he said, "can be got to maintain the most opposite theories with 'amazing audacity;'" and of one witnessess, whom he described as "a highly respected friend," he said, "I have often heard him as a witness, but I never heard him express a doubt about anything in his life—never; he is quite clear and sure upon everything, even as to prophecy." Another medical witness he described as the "sleuthhound of the company;" but the *obiter dictu* of judges on the evidence of skilled witnesses of all sorts are often not orth very much. The legal mind is habitually unscientific; it can neither appreciate the doubts nor the certainties of scientific men. It is rarely, however, that a judge commits himself to observations which we must venture to describe as so ill-mannered as these of Lord Fraser. If medical men were more often on the Bench as assessors, and able to deliver their opinions on legal methods of argument and debate, it is possible we should hear sometimes complaints against legal experts quite as trenchant and certainly not less well founded. Judges who sneer at the opposite theses defended by men of science in dealing with biological phenomena, open to the most varied interpretations, and full of elements of doubt, forget that in every law case opposite opinions have, in the first instance, probably been given by the legal authorities advising, and that when the matter comes to judicial decision, in a very large percentage of cases on appeal, the judgment is reversed. In matters of law, however, the questions at issue are of a relative simple kind, and the data are known, and are not complicated by the imperfectly understood actions of the functions of life and disease in a machine so complicated as the human frame. Lawyers, who are so often in error on mere points of law, should be less trenchant in their criticism on physicians and biologists, who deal with problems far less easy, and, indeed, often incapable of decision, except as a matter of opinions, and on the balance of probabilities.—*Brit. Med. Jour.*

THE NUISANCE OF ROYAL SURGEONS.—The Duke Charles Theodore, brother of the Empress of Austria, is both oculist and surgeon, and is very skilful; but his fondness for the knife (says London *Truth*) is not appreciated at the Vienna and Munich hospitals, for whenever he operates all the regular arrangements are upset, the whole staff is required to be in attendance on him; he must always be respectfully addressed as "Your Royal Highness," and strict etiquette is observed, all of which is decidedly a nuisance. When the duke is at Vienna, he often passes the whole day in the general hospital, and if there are any arms or legs to be cut off, he hastens joyfully to the work. Duke Charles' zeal may possibly be moderated by his accession to the Bavarian estates of his father, Duke Max, who died the other day. He is married to a cousin of the King of Portugal.—*Medical Record.*

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"GOOD FORM" AND THE ENGLISH DOCTOR.—In a work entitled "Good Form in England" we find the following: "The profession of medicine is not one sought by 'gentlemen.' It has been hinted that it requires too much brains and ability. But whether that be the reason or not, it is unquestioned that the 'doctor' in England does not socially hold the position he does on the Continent or in America. * * * No doctor has ever been raised to the peerage. Successful medical men are knighted or made baronets. Brook Street, in London, is the street where fashionable doctors live. Physicians do not have 'offices' in England as they do in America. It would be 'bad form' to speak of going to a doctor's 'office'—his house is the proper expression. * * * Physicians and surgeons always wear high hats—black in winter, drab or white in summer—and always a dark frock or morning coat. This is the regulation professional garb. To call a surgeon a 'doctor' would be very 'bad form.' No medical man should be spoken to as 'doctor' without his name also being mentioned, as 'Yes, doctor,' 'No, doctor,' but 'Yes, Dr. Jones,' 'No, Dr. Smith.' Dentists have no social standing at all in England, and are never by any chance called doctor. They are all misters. Oculists are not very much better socially."—*Med. Rec.*

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SATURDAY, JANUARY 19, 1889.

## A NEW METHOD OF OPHTHALMOSCOPY.

A Berlin correspondent of the *Brit. Med. Jour.* writes that Dr. Bellarminoff, of Moscow, has discovered a new method of examining the interior of the eye. The cornea is first made thoroughly insensible by the use of cocaine, a plain glass is then pressed against it so that the circular portion of the center of the cornea comes in contact with the glass. It is said that a fine zone of fluid is instantly formed between the cornea and the glass, so that the three—glass, fluid and cornea, form one refracting medium, and the eye is rendered highly hypermetropic. The advantages claimed are that the fundus can be more readily seen and that four or five persons can examine the eye at the same time.

I can see no benefit to be derived from this method. The correspondent referred to says that it may be of great service in the instruction of students, but it is a waste of time and energy to teach students that which they cannot use in practice.

Our present methods of examining the eye are very efficient, and are not in any way objectionable to the patient.

It is not claimed that this new method is any more efficient, and its application is not altogether free from risk. It would cause a nervous person to become greatly alarmed, and no amount of assurance could convince him that the physician was not making an attempt to operate upon the eye. In the event the eye should become inflamed shortly afterward, the patient would most likely attribute this to the examination. Great care would have to be exercised to prevent inoculation of cornea in the event its epithelial layer be broken. A spasmodic movement of the patient might cause serious damage from pressure on the globe. Altogether the method is nct to be recommended.

## A STEP IN THE RIGHT DIRECTION.

A recent dicision rendered by Mr. Justice Field, of the Supreme Court of the United States, decided the question once and for all, as to the right of each state to pass laws regulating the practice of medicine, or the qualities of medical practitioners within its limits. The *N. Y. Med. Jour.* says that this decision affirmed the decision of the supreme court of West Virginia. The law of that state requires "every practitioner of medicine in it to obtain a certificate from the state board of health that he is a graduate of a reputable medical college in the school of medicine to which he belongs; or that he has practiced medicine in the state for a period of ten years prior to the eighth day of March 1881, or that he has been found upon examination by the board to be qualified to practice medicine in all its departments." Non-compliance with this law is a "misdemeanor punishable by fine, or imprisionment, or both, at the discretion of the court."

A similar law has been recently passed in Kentucky. Every one engaged in the practice in that state, or who shall hereafter practice there are required to register in the county clerk's office in the county in which he practices. No provision is made for those who do not hold diplomas or certificates of graduation at a reputable chartered medical college, except for those who have been engaged in the practice of medicine for more than twenty-five years. The state board will issue an official directory early in April and those who will not have complied with the law at that time will be subject to the penalty.

Ohio, Indiana, Illinois, Missouri and other states have similar laws. These unquestionably do good, but they do not accomplish all that is desired in the elevation of the standard of admittance into the ranks of the profession. At present it seems there is but one way by which this can be done, and that is to establish in each state a medical examining board. This board should have the authority to reject the application of any one who is not competent to practice. A bill to establish such a board in Pennsylvania is now before the legislature of that state.

The *Med. and Surg. Reporter* says: "For years we have been impressed with the importance of a change in the general methods of licensing practitioners of medicine in this country, simply upon a guarantee afforded by the possession of a diploma. Along with many others, we have realized the utter inadequacy of such a certificate. To put the matter in its most favorable light, suppose the diploma to be issued from one of the first-class schools in the land, one where scrupulous care is exercised in the admission of matriculates, where a three years' graded course is required, and where the branches taught even exceed the traditional "seven," is it not a matter of common observation that a student may manage to pass his final examination, and obtain his diploma without any real, practical understanding of his professional duties? If this is true of our best schools, how much worse is the case in those which do not deserve this designation?"

It has been said that it would be a difficult matter to have men appointed who would see that the law was executed. But as well had one say that we should have no laws as it is difficult to elect judges and governors to carry them into effect. It is as easy to find an honest competent physician as it is to find an honest competent lawyer.

This matter rests with the medical profession. At no time in the past has it received such universal attention, and it is to be hoped that the question will continue to be agitated till the much desired result is attained.

The strongest opponents to the establishment of State Examining Boards are the faculties of medical colleges. If, however, they do their duty to the State there is no reason for such opposition.

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### Osteoma of the Orbit.

At a meeting of the New York Surgical Society, Dr. Kammerer showed an osteoma which he had removed from its attachment to the frontal bone. The bony tumor measured $3 \times 3 \times 1\frac{1}{2}$ inches (*Med. Rec.*) and filled the entire right nasal fossa.

Dr. H. Knapp, of New York, (who has probably had a more extensive experience in the removal of these growths than any one else in this country), advises that the tumor in every instance be removed at as early a stage in its development as possible, as almost without exception it continues to grow, and the greater its size the more formidable the operation necessary for its removal. He says it is next to impossible to chisel the growth away piece by piece, on account of its extreme hardness. Its bony attachment is of a cancelous structure and the tumor can be removed entire by severing this attachment.

In the fall of '87 Dr. Knapp removed a small osteoma from the inner angle of an orbit, and as he held the tumor between his fingers, he said: "This is a lion's cub."

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Small Pox is prevalent throughout Italy.

## A Uinque Case.

Dr. J. H. Neale reports a case (*Brit. Med. Jour.*) in which a girl, aged twenty-four, had never menstruated. As she had been recently discharged from her situation as house-keeper to a farmer in the country, her mother was anxious to know "if there was anything the matter." An examination revealed the fact that the vaginal orifice was completely occluded by a thick fleshy diaphragm, which was so elastic as to admit of being pushed before two fingers their entire length. By bimanual examination it was found that there was an entire absence of the uterus and its appendages.

Dr. Neale said: "Had the probe been roughly used, or a sharper instrument employed it undoubtedly would have entered the peritoneal cavity."

The lesson to be learned from the report of this case is that a thorough examination should always be made before an imperforate hymen is divided.

## Croton Oil Liniment Accidentally Applied to the Eyes.

Dr. David Webster, of New York, reports a case in the *Medical Register*, in which a man had used an eye-salve several times with benefit. One night on awakning, his eyes felt bad and he groped around in the dark for his remedy, and finding a box, similar to the one for which he was looking, he applied its contents to the edges of his lids. It was croton oil liniment. He spent the remainder of the night bathing his eyes in cold water. The next morning his eye-lids were red and slightly swollen; his eye-balls were bloodshot, and there was considerable loss of corneal epithelium. The interest of the case lies in the successful treatment. "The patient made a rapid recovery under the use of a solution of sulphate of atropia in castor oil, four grains to the ounce, to lubricate the denuded corneal surfaces and keep the accommodation at rest, with a retentive bandage to keep the eyes quiet. The corneæ were left perfectly clear."

## Demonstration in Favor of a Popular Professor.

The circumstances have not been made known which necessitated the resignation of Professor Wright, of his membership in the faculty in the University of New York. It is unfortunate that it should have taken place during the regular term. The *Med. Record* of Dec. 29, says:

"During the past week the students of the University Medical College have been much exercised over the resignation of Professor Faneuil D. Weisse, the well-known author and the popular professor of practical and surgical anatomy in that institution. The causes can be briefly stated. The chair of surgery became vacant by the resignation of Professor Wright, and Professor Stimson, succeeding to the same, left the chair of anatomy empty. Professor Weisse offered to fill the chair of anatomy for the remainder of the term free of charge, but the new professor of surgery consented to occupy both chairs of surgery and anatomy, and obtained the permission of the faculty to appoint a substitute of his own selection. The resignation of Professor Weisse very properly followed, as after a service of a quarter of a century in teaching the higher branches of anatomy, the ignoring of his voluntary service was a blow at his self-respect. The students became indignant at the course pursued by the faculty, and not only requested the withdrawal of the resignation but the unconditional appointment of Professor Weisse to the full chair of anatomy. Of course the faculty will do as it pleases. Students must not rule. But if the vote were taken outside the faculty and by the profession at large, there would be no doubts concerning the qualification of Professor Weisse for the place."

The right to fill vacancies in the faculty of a medical college is vested in the faculty or in a board of regents; students have no lawful voice in the matter. It would be out of the order of things for subordinates to dictate to their superiors. However every student has

an interest in his *alma mater* and he has a perfect right to petition the faculty in any matter that he thinks will affect the welfare of the institution. But he is false to his own interests when he attempts anything beyond this. He can accomplish nothing by attempting coercion and while the controversy lasts his time is almost altogether lost.

Changes in medical faculties should not be made during the regular term unless circumstances demand them. The University facutly has had its own way but the institution is none the better for the controversy.

## A Unique Petition.

The *St. Louis Republic* states that the following petition was presented by Senator Vest:

"To the Senate of the United States.—I, Henry S. Chase, a resident of St. Louis, Mo., in behalf of myself and other dentists of the United States who may think as I do, respectfully ask you to grant a bounty of $1 on each tooth filled by dentists for the preservation of those teeth, in order to encourage an honest industry, and thereby encourage competition among dentists, which will lower prices to patients, and, moreover, encourage immigration of dentists from all parts of the world to this country, thereby making a better market for all the agricultural and other products of home industry, the cost for this purpose to be taken out of the general treasury of the United States fsr the purpose aforesaid."

Of all the methods devised for disposing of the surplus in Uncle Sam's safe deposits, none would prove more effectual than his. It is probable that its author did not fully comprehend the far reaching nature of this petition—Uncle Sam could better afford to establish a Dental Department as we have a War Department and have the teeth of the nation cared for at his own expense.

Of course this petition will never be heard of again, but as a literary curiosity it is worth preserving besides it enables one to get a better idea of what senators have to wade through in order to retain the good-will of their constituents.

## Intracranial Growth with Peculiar Percussion Note.

Dr. Suckling showed a boy, aged 6 years, who had received a blow on the head three years before, and who, early in the present year, began to complain of headache. The headache gradually increased in intensity and was paroxysmal, being followed by vomiting and giddiness. Two months after the onset of headache, the right side was found to be stiff and weak, and when the boy was admitted into hospital, contracture of the right arm and leg was well marked, there being decided ankle clonus and exaggeration of the deep reflexes. The right sixth nerve was paralyzed, and there was also paresis of the lower part of the face on the right side. Dr. Suckling considered that the growth was probably started by the injury to the head, and that it was probably a glioma seated in or near the cortical motor centers, the paralysis of the sixth nerve being a distinct symptom. The percussion note over the temples was almost tympanitic in character; Dr.Suckling had noticed the same note in another case in which there was a cerebellar growth with distension of the ventricles.—*Brit. Med. Jour.*

## The Cause of Cramp Colic.

Dr. A. G. Auld (*Lancet*), says that one of the chief causes of colic is the action of toxic alkaloids,or ptomaines upon the muscular coat of the intestine, Mosso having found several ptomaines that have an action upon muscle similar to that of lead, which causes unequal contractions. He says that it is probable that those who are the habitual subjects of cramp have a certain deficiency of the liver one of the functions of the bile being to destroy these toxic alkaloids.

French Generosity.—Mr. Ernest Hart writes the *Brit. Med. Jour.*, from Paris, concerning the Pasteur Institute:

In reporting on this imporiant institute of bacteriology, in which such great national

benefits have been achieved by M. Pasteur and his assistants, it is impossible not to regret that no such institution, and, indeed, no public institution devoted to bacteriological research, exists in England. Besides the Pasteur Institute, there is in Paris the fine laboratory of M. Strauss, belonging to the Faculty of Medicine, in which similar studies and researches are carried on, and in which instruction is given; the laboratory of the Collège de France, under the direction of Professor Ranvier, in which MM. Malassez and Vignal pursue valuable bacteriological, as well as general histological, researches; and, indeed, it may be said, as will be seen in my subsequent letters, that the laboratories of higher study and research, in which microbiology is studied in Paris, are numerous, extensive, and well planned, and afford the most enviable and valuable facilities not only to French men of science and advanced students of biology and medicine, but to those of all other countries; for, with the most generous and unstinted hospitality, the laboratories, whether of study or research, of the Faculty and of the School of Medicine of Paris, as well as those of the Collège de France and of the Sorbonne, are open to students of all countries either free of all charge or for particular kinds of study at fees so low as to be nominal. Withal there are liberal supplies of instruments and material, and excellent facilities of working under the most eminent masters, each wholly devoted to his own special subject, and free from cares or distractions. The generous and enlightened expenditure of the Government in France during the last 15 years in developing the system of higher teaching, in the erection of new places of instruction and the establishment of amphitheaters and laboratories, is little known as yet in our country, but it may well be taken as an example of enlightened partriotism, and one which, if England is to maintain her place in the front ranks of scientific progress, we shall do well to study.

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The Diagnostic Value of Tolerance of the Iodides in Syhilis.—J. W. White criticises the statement made by Prof. Wood, in a recent article on cerebral syphilis, that "in all cases of doubtful diagnosis the so-called therapeutic test should be employed; and if ʒj of potassium iodide per day fails to produce iodism, for all practical purpose the person may be considered to be syphilitic." White asserts, as the result of considerable experience in the treatment of syphilis in its varied phases, and from a review of the literature of the subject, that "there is some other element than the existence of syphilis in any stage which determines the production or non-production of iodism, and when taken in conjunction with the absence of satisfactory evidence in the opposite direction, appears to justify the following conclusions:

"1. Personal idiosyncrasy is so strong a factor in relation to the toxic symptoms produced by the iodides, that it quite overshadows any possible influence due to the existence of syphilis.

"2. There are no satisfactory theoretical grounds for helieving that syphilis in any stage prevents the production of iodism by a process of neutralization, and this is particularly unlikely to be true as regards the latter stages.

"3. It is therefore, most unsafe to base any diagnostic conclusions upon the presence or absence of toxic symptoms (iodism) after the administration of full doses of the iodides."—*Therap. Gaz.*

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Puerperal Eclampsia.—Dr. Joseph G. Swayne, in writing of two cases previously reported in the *Brit. Med. Jour.*, says: In both there was very great tension of the vascular system. In No. 1 "the pulse was 120, full; carotids visibly throbbing, face flushed, pupils contracted." In No, 2, "the venous system was intensely engorged, there being little or no discharge specially indicated, and, as the result proves, was highly beneficial. Had post-partum hemorrhage occurred in these cases, it might have obviated the necessity of resorting to venesection; but then this natural mode of relief has this great disadvantage, that we cannot regulate the

amount of blood lost as we can in venesection.

In a paper which I read at the Annual Meeting, at Edinburgh, of the British Medical Association, in 1875, I stated that the conclusion at which I had arrived from 26 cases in my own private practice, was that "in the treatment of puerperal convulsions, the three most important remedies" (in the order of importance)"are bleeding, anesthetics,and delivery." I also stated that "the relief afforded by bleeding is most marked and striking in convulsions which commence after delivery," as in the two cases to which I have just called attention. Since 1875 I have met with eight additional cases in private practice, which still further confirm the opinion I had then formed of the great value of this old and nearly discarded remedy in the treatment of puerperal eclampsia.

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Practitioners in England are poorly paid, and the struggle for existence in many districts is very keen. Many a man is to be found who has worked for years, and who is about perfect in hisknowledge of his speciality occupying some post as physician in charge of a small hospital. If this specialist were transplanted into western soil, gold would soon bud from the branches.—*Can. Prac.*

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The Editor of the *Jour. of the A. M. A.* says, that with 20,000 members, the Association will have such power as to make itself felt in all public matters in which the profession are interested.

It is altogether possible for the physicians of this country to make the A. M. A., such an association. We should take a national pride in its accomplishment.

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Dr. Morton makes it an invariable rule to examine the urine of every patient on whom he intends operating, except in cases of extreme emergency. The presence of albumen or sugar largely influences his prognosis.

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Dr. S. Weir Mitchell has been added to the faculty of the Philadelphia Polyclinic. A chair on Diseases of the Mind and Nervous System was created for him.

## SOCIETY PROCEEDINGS.

### ST. LOUIS MEDICAL SOCIETY.

Stated meeting, Saturday Evening December 1, 1888, Dr. J. S. B. Alleyne in the chair; Dr. J. B. Prichard, Secretary.

Dr. D. V. Dean presented an "Interesting Surgical Case—Is Abdominal Aneurism Present?"

Dr. Dean.—The patient is the one alluded to by Dr. Porter, while discussing a case of aortic aneurism in this society a fortnight ago. He was 29 years of age at the time of his admission into the City Hospital under my care, May 17, 1886. He had fallen from a swinging scaffold while painting a smokestack some forty to fifty feet, striking feet downward upon a flat gravel roof.

He had a compound, comminuted fracture in the middle of the left thigh; a compound fracture of the right thigh at about the middle; a fracture of the right arm just above the condyles; a dislocation of the left wrist forward; a fracture of the 6th and of the 7th left ribs near the cartilage; a fracture of the right clavicle near its middle; a dislocation forward of the external end of the left clavicle, and sundry cuts of the chin and scalp.

The openings of the fractures of the femurs being anterior, counter openings posteriorly became necessary and were made for drainage with tubes; and the lower limbs were suspended in Hodgen splints and dressed antiseptically. The wrist dislocation was splinted. The right arm and forearm were put up in a plaster, bent splint. A body-bandage was applied for the immobilization of the ribs; and position on the back was the means used for the fractured clavicle, as was my usual practice—in this case also a necessity, for an attempt was once made to keep the ends in apposition by bandages, but had to be given up. I usually obtain firm union at the expense, sometimes, of some deformity by position. To preserve coaptation of the fragments, even in the recumbent position, while the whole arm was encumbered with a splint, and with the care that must be

exercised with the other clavicle, ribs and splinted forearm, was more than difficult; and yet, though the one deformity, as the result of all the patient's injuries is that of this clavicle, it is not more than I have seen with any of the various appliances for this break. Extension of the right forearm is slightly impeded, though the whole arm could be almost straightened. Dislocation of the external end of the clavicle is comparatively rare. The other fractures have to be palpated to find their seat; and, as both forearms were broken, no difference in the length can be appreciated. The anterior and posterior cicatrices of the soft parts of the thighs are secured uprightly. I cannot imagine so favorable results at last, and so comfortable a time during treatment, with any other appliances in vogue as were obtained with the Hodgen anterior wire-splints in this case of many injuries.

Three months and a half later, Sept. 1, I left the case to the care of my successor, Dr. H. C. Dalton, and the same general plan was carried out. I think the patient is a monument to continuous good and tender care. After he was up and about the hospital he fell upon the floor, I learned, and refractured the left femur. Subsequently on my visiting the hospital, my attention was called to what was thought to be an aneurism of the abdom inal aorta, and from a hasty, immediate consultation, I supposed it was an aneurism, though I did not seek differential diagnosis. On a still later visit I again listened casually, when the murmur was much feebler, even slight. No thrill could be felt; the crural pulse was apparently normal, and without further investigation I passed the case on, as being, so far, a favorable result.

Saturday evening, Nov. 17, Dr. Porter, in alluding to the case stated that he thought it was not a case of aortic aneurism, but that the murmur was simply due to dynamic pulsation.

Monday morning, the 19th, the patient came into my office with a subscription paper to procure a little money to start a modest lunch stand with to aid in earning his living. The ground for his application was, in part, that from his many injuries and long confinement he was incapacitated for anything but light labor; but, especially, that his aneurism amounted to a positive interdiction of actual labor. Knowing full well how such papers are often used beyond—in time and place—the emergencies for which they are written, for sheer, venal mendicancy and vagabondcy, I have never written nor subscribed to such a paper, though hundreds of dollars have been collected in this city on such papers purporting to have been written and subscribed to by me, sometimes to quite formidable sums. Personally and professionally interested in this case, the more so after hearing Dr. Porter's remarks, I felt it my duty to know, if I could, the exact physical condition before taking any steps toward procuring unearned pecuniary help for the patient on the basis of his probable future with an aneurism of the abdominal aorta, and, accordingly, I examined him.

Only with some little pressure with the ear or with a bimanual stethoscope did I at that time, hear any murmur in the region of the abdominal aorta. That was over the aorta from six centimeters above the umbilicus up to the celiac axis, and synchronous with the heart systole. The pulsation of the femorals was properly synchronous with and alike in character, that of the arteries springing from the aortic arch, and synchronous with the apex impulse, there being no retaslation such as should ordinarily occur with an aneurism of the abdominal aorta. No thrill was perceptible, no welling, no lifting of a tumor appreciable on grasping the region of the pulsatory murmur. It seemed I could outline the aorta. As the heart appears to be normal, it is not probable that a tone from closure of the aortic valves, nor probable that a bruit from their insufficiency could have been communicated, with the diastole of the heart, to this region to complicate or change the quality of the murmur at its worst. For the same reason, the nearly or quite complete cessation of the murmur can not be attributed to a slowing of the circula-

tion from a weakened heart. None of the abdomina viscera appears to be affected as from an aneurism of branches of the aorta supplying them. The alimentary canal does not appear to be disturbed as from an aneurism near the coeliac axis. The impulse given to the anterior wall of the abdomen appears to be normal, and not like that often given when a thrombus is deposited on the inner wall of the aorta. Passive and forcible approximation of shoulders to pelvis anteriorly gives no defined pain in the region of the body of the dorsal vertebra. Patient complains a little when labile pressure is made along the dorsal spines, but tenderness is not predicated of the same place three times out of five. Otherwise, examination of the back gives negative results. Deep, hard pressure over upper half of abdomen patient says "hurts" him. If an aneurism or sac were posteriorly situated, pressure from it on the branches of the solar plexus would be likely to occur, and radiating pains to the branches of the lumbar nerves, and to the testes and lower limbs. Such a fall with such injuries as patient received might easily be accompanied with injuries of this part of the aorta and of other internal parts. If the murmur was not from an aneurism, what was its cause? Dr. Porter, who studied this case in his wards in the hospital, pronounced it, as I understood him, a case of dynamic pulsation. As to him belongs the credit of this diagnosis, and I found him in easy telephonic communication, I invited him to examine the patient again on the morning of the latter's visit to my office, which he did. He has since shown me sphygmographic tracings, with perfectly normal curves, taken by him from the femoral arteries while patient was under treatment at the hospital, and I leave to him to defend his diagnosis.

I wish to say of this case that my remarks on the aneurism are based on this single examination, and we all know how equivocal are single examinations of this character. Even this evening a slight murmur may be heard, without pressure, in the region of the coeliac axis. The only reason that I have committed myself so far is that I may open the case to examination and discussion, and to draw out others who studied the case earlier. I am frank to say I am not positive as to the diagnosis, hence the interrogatory in the title of presentation.

Dr. Porter has examined the patient carefully and will detail some interesting points.

Dr. W. Townsend Porter.—The facts that make it probable that the diagnosis lies between aneurism and simple forcible pulsation of the abdominal aorta are not stated in the following remarks.

The points against the diagnosis of aneurism seem to me to be as follows: The injury to the vessel was either from direct external violence or from a sudden increase in the blood pressure following or accompanying the fall. The theory of direct violence is somewhat improbable from the sheltered position of the aorta. Besides, direct injury to a healthy artery is not, as a rule, followed by aneurism; at least that idea has been borne out by the experiments of Amusat and Quincke. These observers tore the inner and middle coats of arteries in animals and found that although a very small aneurism was formed at the site of the injury it speedily filled with blood clots and no permanent damage resulted, so that if injury occurred to the abdominal aorta from this accident, it was probably from the sudden rise of the blood pressure which might have been caused by the patient attempting to save himself as he fell. Now it seems to me this rise would not affect a healthy abdominal aorta. If rupture occurred in a healthy arterial system, it would probably occur where the pressure was greatest, at the root of the arterial tree. All the arteries which are accessible to examination appear to be healthy; there is no sign of atheromatous changes either in the femoral or radial arteries; no patches from chronic endarteritis can be seen in the ranine vessels. If degenerative changes were present there seems little reason to suppose that they would not be present in the aorta.

Abdominal aneurism is most common at the

celiac axis. In this case we have a pulsation which can be seen from the ensiform appendix to the brim of the true pelvis. There is an absence of thrill, and there never has been any thrill as far as I know; there is also an absence of the characteristic aneurismal heave, and the murmur is sometimes hard and again can not be heard. It is now two years and some months since the injury was received, and it seems reasonable that in that time the aneurism would have grown; it has probably not grown as the crural curve taken shortly after the injury and that taken a few days ago are identical.

In relation to the curves, if there were an aneurism here of any but the smallest dimensions, we should have an obliteration of the curve, or of some of its features. An aneurism upon the course of a vessel acts in a way closely resembling the air chamber of a steam engine. A steam fire-engine, as everyone knows, has a chamber filled with air; the water enters this chamber and compresses the air and the elastic reaction of the air in the interval between the strokes drives the water out from the chamber so that the intermittent flow from the pump is converted into a continuous flow. In aneurism a certain part of the blood that enters the artery on the cardiac side of the aneurism is accommodated in the aneurismal sac during the systole of the heart, distending the elastic walls of the sac; during the diastole of the heart the elastic walls returning towards their original position press on this amount of fluid in the interval between two strokes of the heart. In that way the intermittent expansion of the artery below the aneurism is made less marked, so that the systolic up-stroke and diastolic down-stroke are not so clearly shown at points on the artery below the aneurism as at points above.

Then again if there be an aneurism in the course of an artery, the up-stroke is not so nearly vertical as in the normal artery, the blood distending the aneurismal sac slowly and being passed out again slowly; for this same reason the flow between the strokes of the heart is almost equal to the flow during the systole of the heart, and we find an obliteration of the secondary curves.

There have been at times murmurs heard over the course of the abdominal aorta in this case. This murmur I explain in one of the following ways. It is noted by Weil in his book on auscultation of the arteries that the systole of the artery by its sudden expansion, communicates to the observer's ear a shock which may give rise to an obscure sound resembling a murmur; then again there is a muscle sound which can be very commonly heard in auscultation, a sound caused by the vibrations of the facial muscles. But more interesting, because less frequently mentioned, are the aneurismal arterial tone and murmur and the tone and murmur produced by pressure. By "tone" is understood a sound which resembles the heart sound; by murmur the ordinary bellows murmur. The statistics gathered by Weil and other observers show that during slight pressure no murmur or tone is heard; that in the normal artery exceptionally a tone is heard, but this tone is almost always single and is as loud or louder than the heart tone. This is heard normally in a certain percentage of cases. A spontaneous murmur is very rare. In disease, this tone is two and a half times more frequent than in health and is most commonly heard in febrile disease and diseases of the heart, especially in aortic insufficiency. The pressure murmur and tone are produced in a way which was illustrated by the experiment of Corrigan and others. Corrigan took a lamb's intestine, and put one end of it in communication with a vessel of water that was about four feet above the lower end of the tube; then he passed through this intestinal tube water and pressing upon a point in the tube thereby narrowed it and he felt a thrill in the portion just beyond the constricted point, and placing a stethoscope there he could hear a murmur. He explained that in this way, and his explanation is the foundation of the "oscillation theory;" that the central part of the fluid proceeds at a very rapid rate, but that the fluid on either side of the central current escapes from the orifice caused by the narrowing of the vessel

in very irregular directions and that these irregular currents, these eddies in the current, produce vibrations of the arterial wall which give rise to the murmur. The second factor in the production of the murmur is the density of the fluid. The first experiment upon that subject was by La Harpe. La Harpe injected fluid of different densities into the common iliac artery of a cadaver in such a way that it flowed out through the popliteal, and heard murmurs whose intensity increased as the specific gravity of the fluid decreased, probably because fluids of low specific gravity increased the oscillation of the walls. This pressure-murmur and pressure-tone and spontaneous murmur and tone are due to the vibration of the membranous arterial walls, and they are therefore modified by the character of the fluid, and by the amount of the difference between the maximum and the mimimum expansion of the artery; the maximum expansion may be increased by an hypertrophied left ventricle. So that other things being equal we are more likely to find a normal murmur in such a case. The difference between minimum and maximum expansion may be increased by a lessening in the amount of minimum expansion, the maximum remaining the same. This usually occurs from a greater than normal fall of arterial pressure during cardiac diastole, and may be due to a diminution of the whole quantity of blood. So you would be apt to find these murmurs in cases of extensive hemorrhage; secondly, in underfiling of the arteries with normal or more than normal filling of the veins, as in uncompensated valvular disorders of the heart; thirdly, in lessening of the peripheral resistance by widening of the small arteries, as by nitrate of amyl; and, lastly, when there is a small quantity of blood in the artery at the beginning of the systole, as in aortic insufficiency where the blood during the diastole of the heart passes back into the heart as well as into the artery.

I have here the sphymographic tracings, and will call especial attention to the third curve; the patient beginning to hold his breath at the beginning of the cu rve, the blood became more venous, the vaso motor center was stimulated, and the arterial pressure began to rise; also from stimulation of the cardio-inhibitory center, the beats of the heart became less frequent, and it is especially interesting to see the predicrotic wave, indicator of tension, rise in the curve until it finally goes above the apex.

Dr. L. T. Stevens.—I examined this man by Dr. Dean's permission, spending about 15 minutes in the examination, and in my opinion I heard a murmur that was not dependent upon pressure from the stethoscope. When the patient breathed rather rapidly and the pressure was lowered, the murmur was rather soft, and the pulsation in the aorta was diminished. The murmur was more pronounced when the patient held his breath. It is not due, in my opinion, to extrinsic causes. It may be due to pressure on the vessels inside, or to some abnormal condition of the blood or to enlargement to the aorta. The general condition of the patient might tend to indicate that it was due to anemic causes; it may be due to pressure within the abdomen on the outside of the vessels or to aneurismal dilatation. I was not satisfied with the character of the expansion of the pulsation in the epigastrium. I thought I could detect a slight expansive character. I simply mention these points as I found them. They are rather against the theory that has already been advanced.

Dr. Prewitt.—The case that I have to report tonight is that of a man 23 years of age who came to the hospital November 23. He had suffered with hernia for a number of years. On the Monday before his admission the hernia came down. Some physician was called, who tried taxis, but failed to reduce the hernia, he left with the understanding that the patient was to send for him if he did not get better. He did not send for the physician but came to the hospital on Wednesday morning. I found him with a good deal of fever. There was quite a hernial protrusion, tender and red, seemingly inflamed. His pulse was not very quick, perhaps not over 100 and of good volume. It seemed to me,

considering the general appearance of the man, the volume of the pulse and its not very rapid beating, that the hernial sac could be readily reduced. I tried taxis for two or three minutes.

The patient was still vomiting occasionally and still had paroxysms of pain. I told him I would give him an anesthetic and if I could not then reduce the hernia I would have to perform an operation. I took him to the operating room and administered an anesthetic and tried taxis again, but failed to make an impression on the tumor, although, strange to say, with the first efforts at traction there was a marked gurgling and I expected to feel the bowel slip back into the abdominal cavity. Every surgeon knows that when in strangulation of the bowel we try taxis and we feel a gurgling of the bowels it is an indication that the contents of the bowel are escaping and the hernia will go back, and I certainly expected it to do so. I concluded that the reason why I did not get the bowel back was because there had been some inflammation which left adhesions.

It occurred to me that there might be gangrene and the development of gases that might account for the gurgling, but the man's condition did not seem to justify the opinion that the bowel was gangrenous.

I proceeded to operate, cutting down to the sac. I thought I would divide the constrictions outside the sac and endeavored to reduce it without opening the sac. I failed to do this. I then opened the sac and out pushed a portion of dark, congested, thickened omentum, and following it was a long coil of dark, grangrenous bowel, something like eight inches of bowel, dark, flaccid, and looking like wet leather. I was somewhat surprised at this, but it accounted for the gurgling.

Finding the bowel in this condition, it was a question whether I should adopt the advice of the more conservative surgeons and simply leave the constriction out of the neck of the sac and leave the bowel in situ, possibly making an opening into the gangrenous portion, or whether I should resect the bowel. Of course, the first procedure would have left an artificial anus with all the annoyance and trouble connected with it, which is scarcely a condition to be coveted—in fact, although mankind is apt to cling to life as long as possible, I doubt whether a great many persons would not prefer to die at once rather than have such an annoying condition. So I concluded I would resect the bowel, which I did, cutting a triangular piece out of the sentery so as to enable me to bring together the edges of the mesentery without so much puckering as would have occurred by cutting out the bowel and leaving the margin intact, and then stitching together the mesenteric borders and sewing the ends of the bowel together, using a modified Lambert suture. I used cat-gut for stitching up the mesenteric cut, but I used fine silk for sewing the bowel.

The patient was put to bed with comparatively little evidences of shock. His bowels moved twice that evening, being bloody,dark looking stools, and during the next two days there was a great deal of diarrhea, persistent and very troublesome. He passed thin, dark looking stools which I regarded as septic in charaeter. Still his temperature gradually fell and his pulse, which went up some after the operation, improved. To-day his temperature is 98°, and his pulse 80 and the patient is doing very well. He was a little delirious even after his temperature was not above 99°; he got up once or twice at night and was rambling around. Still he suffered no ill consequences from it and I found him the next morning in a very fair condition. I had some apprehension that I had not cut off quite enough of the bowel near the border line, the line of demarkation was very distinct, the line of constriction was very distinct indeed, and I cut off the bowel a short distance from that, still I was apprehensive that I had not made the section of the bowel quite far enough from that. I am frank to say that I am not sure that this is the safest operation for the patient. I must confess that I think the older operation is safer, simply dividing the constriction at the neck of

the sac and then leaving the bowel in situ, opening the gangrenous portion to admit free exit of the contents of the bowel.

Dr. F. J. Lutz.—What did you do with the hernial sac?

Dr. Prewitt.—I did nothing with the hernial sac. I did not attempt to make a radical operation for the cure of hernia, I felt that I would be thoroughly satisfied if my patient recovered in any event, in fact, I left it open in the hope that thorough drainage would improve the patient's chances and for this purpose I put in a tent of iodoform gauze stitching up the upper part of the wound, leaving the tent protruding from the lower end of the wound. I preferred to secure thorough drainage rather than endeavor to still further improve the operation by attempting the radical cure by cutting off and sewing up the hernial sac.

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## SELECTIONS.

### A CONTRIBUTION TO THE STUDY OF TUMORS.

BY NATHAN JACOBSON, M.D., OF SYRACTSE, N. Y.

What constitutes malignity histologically and clinically?

From earliest times tumors were grouped into two classes, the benign and malignant. Long before exact methods of observation permitted closer discrimination, the physician recognized these two groups. From the patient's standpoint the most important question is whether the tumor is or is not innocent in character. To the surgeon, too, this division of neoplasmata, based as it were upon prognostic considerations is all important. It establishes the time for and the character of any operative interference. It continues the patient under observation for a period of years, or leads to his dismissal after operation. And, therefore, it is proper, though perhaps very unscientific, to view tumors in this light.

What is understood by the malignity of a neoplasm? If we are to consider it synonymous with danger to life, tumors in themselves innocent would, by location, become malignant. This is obviously not what is meant. It refers to a growth which invades, not merely displaces, tissues in its immediate neighborhood, which excites in them such radical changes that their former identity is lost; a growth of infectious character, which disseminates its infection through vascular and lymphatic channels, heaping up its infectious elements in the glands and organs of the body. The malignity of a tumor excludes its being serious simply because of its local disturbances, but ranks it as one capable of producing not only local destruction of tissue but of extending its destructive tendencies to various organs and thus emperilling life. Not all malignant tumors possess this power to an equal extent, nor do all tumors, histologically identical, exhibit the same degree of malignity. Moreover, in others the border line between benignity and malignity cannot be well drawn. The manner of growth of malignant neoplasmata is extremely suggestive of their germ origin. In these days of bacteriological investigation, it is not remarkable that much attention has been devoted to the search for some microbe, the presence of which might definitely establish the malignant character of a tumor.

In November of last year, at a special meeting of the Society for Internal Medicine of Berlin, Dr. Scheuerlen, clinical assistant of Professor Leyden, presented a paper upon the "Etiology of Cancer." It was based upon a study of ten cases of carcinoma of the mamma, five of the uterus, five of the cervix, three cases of metastatic cancer of the liver, and one of the stomach. He asserted that cultures made from spores found in each of these tumors, lead to the development, each time, of the same bacillus.

Franke reports in *Muenchener Medizinische Wochenschrift*, No. 4 of the current year, that he has discovered in sarcoma, bacilli and spores which are constant. The bacilli are thinner and longer, the spores somewhat thicker and larger than those of the carcinoma. Schill, of Dresden, who since 1882

has searched for a micro-organism to which he could attribute the origin of cancer, claims that he constantly found in cancer juice and sections of carcinomatous tissue red formations, but never really bacilli. Petit (*L'Union Medicale*, No. 152, of last year) claims for Rappin the glory of having been the first to discover the Scheuerlen bacilius, with which he has awakened, by inoculation, a cancerous disease in a rabbit, finding here, again, the same microbe.

And yet good observers who have studied the validity of these claims, among them Senger in particular, insists that Scheuerlen has mistaken for the spore of cancer what is nothing more than that of a potato bacillus. Senger maintains that if it is really the bacillus of cancer, it ought to be evident in cancerour tissues as a bacillus. But here only spores have been found, while the bacillary growth is most luxuriant where the potato is used as soil. Moreover, in upwards of 350 inoculations, the results have been negative. So while the theory of infection through the agency of a microbe might very beautifully explain the progress of malignant tumors, we can merely say that we have reached a new stage in this study, but are not as yet able to demonstrate microscopically any pathognomonic germ.

And yet the microscope has been the means of unfolding to us an explanation of these malignant attributes. In most instances it is possible to determine histologically, the character of a tumor. Luecke, excluding cysts, recognizes in solid tumors, the only real neoplasmata. For the present discussion, this broad division will answer our purpose. But it must not be forgotten that many apparently innocent blood cysts are really hemorrhagic sarcomata, their walls presenting the characteristic microscopic appearances. Speaking generally, it may be said that those solid tumors which exhibit microscopically, maturely organized tissue formation, are innocent, while those whose counterpart cannot be found in the mature body, but which present a rich but immatured cell structure, malignant growths. Sarcoma and carcinoma exhibit no typical matured tissue in their construction. Sarcoma is a connective tissue tumor, with its component cells in their embryonic state. For many years one form of cancer bore the name of epithelioma, as it was apparently of epithelial lineage.

In 1871 Waldeyer, in an able resume of his own as well as the labors of other German coworkers, published in Volkmann's Sammlung an address, which took the advanced stand that all forms of cancerous disease were of epithelial origin. In studying the development of these two forms of malignant disease, it becomes apparent that they do not imitate in their growth the typical connective and epithelial tissues, but that sarcoma becomes the atypical unrestricted connective tissue tumor, and carcinoma the atypical unrestricted epithelial tumor. More than this the kind of epithelium present at the site from which the tumor grows, indicates the kind of carcinoma we are to encounter. Squamous, spherodial and cylindrical epithelia develop in turn, not only primary carcinomata of their distinctive types but maintain their individuality, even in secondary formations. The same independence for round and spindle cells is claimed by Ackermann, in his very learned discourse upon the histogenesis of sarcoma. These two kinds of malignant tumors maintain their respective types throughout the whole life period of their growth. There is no conversion of cells of one tissue to those of another, no growth of primary cancer from connective tissue. This statement is not to be understood as opposing, but rather of explaining the conversion of mature epithelial or connective tissue tumors into the malignant ones of their kind. The blood vessels form the centre of growth of the sarcoma. About them the spindle cells are seen to form and indeed are seen to grow out of their adventitia. The blood vessels increase in number and size and soon countless nucleated spindle cells, sometimes large and again small, are seen isolated or gathered into bundles. If the formation has been rapid, no time or fibrillation occurs, and we have a tumor which may attain great size, rich in vessels and of

soft consistence. Here the vessels may be seen converted into or built up of spindle shaped sarcoma cells, and the blood current may course through a series of sarcomatous canals. With slower growth we recognize macroscopically a distinct fibrillar arrangement, and the tumor microscopically is seen to possess a firmer structure. The particular arrangement of this new connective tissue will vary with the location of the growth, not only because of the peculiarities imparted to it by location, but also of the rapidity of growth its situation may excite. As the tumor grows by addition to its surface, the parts nearest its circumference, present the most recent tissue formations.

We have another variety of connective tissue tumor, the very counterpart of new granulation tissue, the round celled sarcoma. Here we find in addition to the connective tissue stroma just mentioned, a large number of round cells, some corresponding to leucocytes in appearance and action, others, like mucous corpuscles or certain glandular cells. They are densely crowded between the meshes of the stroma. We encounter round cells of varying size called small and large and which Ackermann, because of their capability of taking on different stains, believes to be different kinds of connective tissue cells.

The stroma of sarcema may assume most atypical and polymorphous shape. It may not only bespindle shaped and fibrillar,but may be stellate,pyramidal and extremely irregular, or may at times resembles strongly the spacing met in carcinoma, when it is termed alveolar sarcoma. It is thought by Ziegler that the conversion of a network of vessels into a sarcomatous tissue leads to this alveolar formation. Scattered amongst the spindle and polymorphous stroma we sometimes find large multinuclear cells, known as giants cells. They are particularly encountered like their counterpart in the embryo, in bony structures.

Embryonic connective tissue is rich in mucin. This is particularly true of that which is ultimately to be converted into adipose tissue. We find the counterpart of this formation in the tumor called myxoma. Its usual seat is as we would anticipate, in parts where fat abounds normally. The close resemblance to, and frequent association of this tumor with the sarcoma renders it not altogether improbable that with time they may be grouped together. Stellate and fusiform cells are found as in sarcoma, and the difference between the two tumors is rather more chemical and physiological than histological.

It is not my intention to enter into a consideration of all the various forms of sarcoma due to location. They possess no important peculiarities save those imparted them because of their origin from specefic matured connective tissues. Mention, however, should be made of the pigmented variety known as melana-sarcoma, with whose very malignant tendencies we are all acquanted. In its cells as well as its intercellular substance we find abnormally developed the normal pigment of the part. It is the cell element of the growth which indicates the character of the sarcoma, and it may be said that sarcoma asserts its greatest malignity when its cells approach most nearly the type of the youngest embryological connnective tissue. And so the small round celled sarcoma is most greatly dreaded,next those pindle celleds forms, where there is most fibrillation, while those which approach the higher and more organized types of tissue, exhibit less malignant tendencies. This disposition to attain in certain parts of a tumor the type of mature connective tissue is frequently manifested by its organization into bone, cartilage and so on. For this reason it is essential that all parts of a tumor and especially its youngest parts be subjected to histological study, in determining its malignancy. The outlines of some sarcomata can be well drawn; it is particularly the small spindle celled variety which appears to the naked eye to be encapulsed. Guided only by the microscopic appearances, the surgeon would be apt, because of this thorough definition to pronounce the growth innocent in character, but the microscope shows thrt the cells utterly disregard such lines of limitation and reach well into the surrounding structures.

Quite as certainly as sarcoma is the embryonic connective tissue tumor is carcinoma of epithelial origin. The time has come when we can regard cancer as being of local origin. Primary cancers occur only where in the mature body, some form of epithelium exists. To appreciate the character of a cancerous tumor is to study the manner of its growth. When epithelial cells multiply upon the surface of a given part, and become organized into tumor formation, the growth remains innocent in character. The moment these epithelial cells begin to invade the underlying tissues malignancy has begun. Pursuing their course with the microscope, they are seen to enter the connective tissue traveling along any microscopic channel lymph canal or bloodvessel, and soon collect at various points in little groups called cancer bodies building for themselves nests in the connective tissue called alveoli. Virchow consider this alveolar arrangement of the connective tissue the essential histological characteristic of cancer and presumed that cancer bodies which filled the alveoli were the outgrowth of connective tissue cells. His views had been generally accepted until Thiersch, Waldeyer, Luecke and others proved that that they were but a result of epithelial cell invasion. Chains of epithelial cells can in some specimens be seen tunneling througe connective tissue and effecting in it decidedly radical changes. The entrance of epithelial cells into connective tissue territory, awakens the infiltration of this tissue with numerous round cells, resembling lencocytes in appearance. These young connective tissue cells, also decidedly impress the infiltrated tissue and lead to further structural changes. The relation of vessels and cells to each other; is not as intimate as that seen in the sorcoma, for here they do not run between the cells, but in the alveolar structure. Epithelia are of low vital power. In normal tissues they receive their nutrition not by direct vascular supply, but by absorption; so here in epithelial tumors we find them thriving in the same way, and like low forms of animal life, multiply most rapidly.

The cell partake of the character of the epithelium of the affected part. Where the tumor is gladular origin, as in the breast, they are spheroidal; where normally pavement epithelium is found, as upon the skin and most mucous membranes, they are of the squamous variety; and where we would be apt to encounter columnar epithelium, they are cylindrical. They resemble the various forms of epithelium in shape and nucleation; they multiply in the same manner, but in their distribution and arrangement they disregard all laws of normal growth and go as they please. This atypical arrangement is an essential feature of malignity. The cells are absolutely unrestricted in their movements and infiltrate all kind of tissue. The more numerous the cells and the less abundant the connective tissue, the more malignant is the growth.

The character of the stroma depends upon the tissue invaded. As it is present in large or small amount the tumor is hard or soft. The alveoli do not always appear as separate cavities, but in the best specimens Waldeyer compares them to the openings in and channels through a sponge; and as by compression the sponge can be freed of water, so also can the alveoli be emptied. The cells may be so numerous as to render the existence of alveoli not apparent; but the characterists epithelial cell is never absent.

In considering tumors only from the standpoint of malignancy, the resemblaace of sarcoma and carcinoma may not be a matter of moment. However, it will be in place to say that while in every form of cancer we have connective tissue invasion and change it is only the alveolar forms which particularly resemble each other. In carcinoma however, the cancer cells and the alveoli are distinctly separate; in the sarcoma we see nests of cells sending out branches communicating with each other, and with the alveolar walls, demonstrating by this connection their homogenesis.

Contrasted with benign tumors like adenoma, fibroma, myoma and other forms of organized cell growth, we recognize as the

characteristic histological evidence of malignity the presence in great abundance of immature cellular elements, arranged in most atypical forms. Whether a microbe yet undiscovered awakens, through chemical or other agencies this cell activity, and disarranges the equilibrium of normal tissue growth is still unknown.

In the clinical study of a tumor, we are concerned first with its history. Sarcoma, occurring when connective tissue growth is most active, is recognized as the malignant tumor of childhood and early life. When the vitality of connective tissue is reduced, the resistance to the invasion of epithelial tumors is lessened. For this reason carcinomata are encountered later in life. Growing from fixed tissues, each form of primary malignant disease is found in certain structures and even in definite locations. Primary malignant disease of bone, is sure to be sarcomatous; carcinoma of bone results either from direct invasion from diseased epithelial structure or from secondary infection. Therefore, should we find no external evidence of invasion, the search for a more remote source of infection must be continued. We encounter malignant tumors at points where two kinds of epithelia meet, at constricted parts of canals and in places particularly prone to irritation. All of these facts correspond with the theory of development, make evident by histological study. Everything speaks for the local origin of malignant tumors. Were they of constitutional origin we should expect them to crop out simultaneously from different parts of the body. On the contrary, tumors which are primarily multiple are innocent.

Heredity is no longer to be considered an important factor. Congenital tumors are not malignant. Sebaceous cysts and nasal polypi follow up certain families more frequently than does cancer. Osteomata appearing in various members of one family are more sure to be located alike, than are malignant tumors.

Among the earliest local manifestations of a malignant neoplasm, are those due to the infection of the surroundine parts. The resulting infiltration is characterized by an agglutination of the tissues, the mucous surfaces, for example cannot be freely moved upon the submucous tissues. There occurs fixation of the growth and restricted mobility of it. A malignant tumor of the breast, because of the penetrating infiltration becomes adherent to the underlying muscular structures. It is the relation the tumor bears to its surrounding tissues which particularly exhibits its malignancy, clinically. The innocent tumor simply occupies a place in the tissues; it may, as a result of inflammatory process, become somewhat adherent to the parts around it; it may, by pressure, produce atrophy of the muscle or absorption of bone. It acts only as a foreign body and possesses no power of infiltrating the tissues, in the midst of which it is placed.

Malignancy is further evident in the infection of neighboring lymphatic glands. While this tendency is largely possessed by the carcinomata, it is also manifested by some sarcomata. In a case, reported last year by Fisher, of malignant sarcoma of the penis (*Zeitschrift f. Chirurgie*, page 313), the inguinal glands on each side were converted into sarcomatous tissue. With sarcoma of the testes, frequently pelvic lymyhatic glands show sarcomatous degeneration. Whether sarcoma cells, because of their size, and manage to pass through the lymphatics unarrested, or whether the lymphatics are not always invaded by the sarcoma cells, is yet a mooted question. But as in its origin sarcoma is so closely related to the vascular system, its dissemination is, as we would naturally expect, through the blood current, and with it we have earlier, than in carcinoma, the indications of more remote infection. Xet it is not always that only neighboring glands are involved. Virchow was the first to tell us that with gastri cancer the lymphatic glands above the left clavicle were frequently affected, and Belin has shown that every form of visceral cancer can exhibit glandular disease at some remote point.

In both sarcoma and carcinoma we have

sooner or later organic infection, the result of deposition of malignant emboli, carried through the blood current. These find their way to the lungs, liver, bones and other parts, and thus we have aroused a series of secondary malignant growths, whose presence we establish clinically.

In form malignant tumors present nothing characteristic. They adapt themselves to the shape of the affected part, sarcoma seeming often to be only an hypertrophy. Ordinarily they exhibit a broad infiltrated base; yet pedunculated growths may be sarcomatous in character. The vessels of sarcoma occasionally dilate to such an extent that the tumor appears like an innocent cavernous growth. One of this kind I removed three years ago from a lady's arm. Histological examination showed it to be a melanotic sarcoma. It has as yet not recurred. With carcinoma we frequently find upon the surface isolated nodules, early adhering to the skin. They break down and the ulcer resulting is surrounded with discolored infiltrated tissues.

In the examination of malignant tumors, Luecke calls attention to the fact that not all transparent tumors contain fluid. Sarcomata and myxomata are often quite diaphanous. This property is shared by some lipomata and lymphomata. To the touch malignant tumors exhibit a varying consistence. Some are extremely soft, others very firm. Many primary carcinomata exhibit an elastic hardness, while the soft sarcomata, myxomata and softened carcinomata present elastic softness. This elasticity is often mistaken for fluctuation. The exploring needle or hypodermic syringe soon clears up the deception. Pulsation is apparent sometimes in sarcomata of bone or even of soft tissues. As the latter are built up largely of a sponge-like structure and can be greatly reduced in size by compression, the pulsation may strongly suggest aneurism. But their location, origin and growth will usually render a diagnosis easy. When bone is the seat of a pulsating tumor, it may be considered malignant, as the medullary canal can not well be the site of a spontaneous aneurism.

Sarcomatous disease of long bones may so undermine their stability as to render them very fragile before tumor formation has sufficiently developed to attract the attention of the patient. In December of last year a young woman was brought to St. Joseph's Hospital in Syracuse. During the preceding August she had fallen out of a hammock, and in the following September she made a slight misstep and sustained a siple fracture of the thigh. At the time of accident no existing disease of the femur was suspected. Union did not take place; the rapidly increasing swelling of the thigh was supposed to be inflammatory, and was treated by fomentations. Upon her admission to the hospital the diagnosis of sarcoma was made. The disease made rapid progress; the tumor extended to the body. Secondary growths occurred in the lungs and upon the skin, and in March she finally succumbed after a most painful illness.

Another feature of malignant tumors is their recurrence after operation. In itself this is not indicative of malignity, for incompletely removed fatty and fibrous tumors will also recur. And yet the recurrence of sarcoma in the stump of the amputation, the recurrence of carcinoma in the cicatrix or neighboring lympathic glands are to say the least very suggestive. The period of time elapsing after removal indicates whether the recurrence is due to the continuous growth of unremoved portions, or whether we are really dealing with a new tumor; while the parts affected by the new growth establish whether or not there was co-existing disease of glands or internal organs.

Tumors innocent in character and springing from specific tissues may be converted into malignant growths of their type. Thus the papilloma may become the squamous celled carcinoma. During the past year, the whole civilized world, and particularly the medical profession, were exercised over the malignant laryngeal disease of the late German Emperor. Stoerk published in the *Wiener Med. Wochensch.*, Dec. 3, 1887, a most interesting paper bearing upon the diagnosis of

papilloma and carcinoma of the larynx. As it nicely illustrates some of the distinguishing features of malignant tumors, I will ask you to bear with me while I present the results of his study.

In the larynx every affection of the epithelial surface, active or sluggish, leads to excessive epithelial growth, but none to such an extent as the papilloma. Aside from slight disturbances of phonation and laryngeal irritation,patients endure these papillary growths for an unlimited period without much inconvenience. A great quantity of catarrhal discharge is excited and the tumor is maintained in a succulent condition. Isolated papillomata may slough and be cast off, others undergo retrogressive changes. While innocent in character they are freely movable,produce no interference with the action of the laryngeal muscles, and maintain a pale yellowish-white color. The moment the discharge lessens and the papiloma ceases to be succulent, the floor upon which it rests changes; single masses become conglomerate,nodules appear upon the surface,the tumor is less movable, it becomes of firmer consistence and takes on a darker hue. This dark discoloration is a positive indication of its change in character. Ultimately the tumor is found to be immovable, as though it were riveted to the substratum. With the cessation of epithelial growth upward it attains greater breadth at its base. The epithelial cells are found to have penetrated connective tissue, muscular fibers, and the very walls of the blood-vessels are crowded with epithelial cells. This general infiltration produces great interference with laryngeal functions; cellular infiltration progresses,new nodules appear and the carcinoma spreads. Disseminated papillomata exhibit least the tendency to carcinomatous conversion.

The microscopic examination of papillary masses coughed up or removed will not reveal the true character of the growth, for it is the examination of the base which is all-important. Endolaryngeal operations performed for this or other purposes have often rendered these growths unsuitable for extirpation. The mildest operative procedures often awaken cell cavity and confer upon quiescent growths most malignant attributes. Painful deglutition, disturbed phonation, respiratory distress, take the place of a mild train of symptoms. The loss of muscular integrity, the resulting laryngeal immobility, are pathognomic of the conversion of innocent into malignant tissue.

For these reasons, Stoerk believes that the diagnosis must be made with the laryngoscope, and that here, at least, clinical appearances are more to be depended upon that histological investigation.

What is the mechanism of the necrotic process which so often occurs in certain neoplasmata? Innocent tumors are not prone to necrotic changes except as a result of interference with their nutrition, or as overaction in them develops inflammatory disturbance. By pressure they may occasion death in the surrounding tissues or, resulting from their excessive growth, overlying tissues may become too tense and give way.

In malignant tumors, the outcome of a typical cell growth, there may occur cell metamorphoses and death. These tumors may additionally be subjected to accidents and diseases. Hemorrhage into a sarcoma may be so extreme as to completely alter its character. Moreover, inflammation may arise and result in structural death.

It is in the carcinomata especially that we encounter the necrotic processes. As epithelial tumors depend for their nutrition upon the vessels of the connective tissue, the relation of the epithelial formation to the underlying structures is of vital importance. When, as a result of epithelial disturbance, the underlying connective tissue becomes densely packed with small granulation cells, thickening and development of the epithelial body is prevented and, cut off from its nutrient subsoil, cancerous ulceration occurs, which we call rodent ulcer.

When superficial structures become infiltrated with carcinomatous cells, and, by tunneling through and into them, the nutrition of the part ultimately becomes affected, ne-

crosis occurs. The resulting ulcer is not simply the result of tension and pressure, but actual cell infiltration, and its edges bear unmistakable evidence of it. The ulcer and tumor are so intimately associated, that the former simply fades into the latter. In the same way, epithelial cell invasion of the deeper parts cuts them off from their vascular supply. Central softening and degeneration results. The destructive process extending to the surface, leads to the formation of crater-shaped pockets. In the extension of carcinoma from skin to mucous membrane, the disease does not spread continuously, but the epithelial invasion reaches from the depth up toward the mucous surface and chokes the normal tissues into ulceration.

The protoplasm of the epithelial cells may undergo change. Fatty degeneration and caseation occur, particularly in the spheroidal, sometimes also in the squamous-celled carcinomata. This fatty metamorphosis may continue to such an extent as to fill some of the alveoli in carcinomatous breasts with a butyrine substance. Small losses of tissue thus result. The connective tissue cells also undergo similar degeneration. Extensive suppuration and sloughing may follow, and in this way, too, deep pockets and great loss of tissue is occasioned.

A form of degeneration, once supposed to be a variety of carcinomatous growths and not decay, is colloid degeneration. It is seen particularly in carcinomata arising from columnar epithelium in the intestinal tract and the cervix uteri. Other varieties occasionally exhibit it. Its character varies with the parts involved. Unquestionably, however, it is the result of alteration in the protoplasm of the cancer cells.

Closely allied to this is the mucoid degeneration of the connective tissue cells. We have present in all connective tissue, as Kuehne showed, a certain amount of mucin. It is the muciparous serum which separates the sarcomatous connective tissue cells from each other. We encounter mucous transformation in sarcoma of the breast, testes and other parts. It leads to necrotic changes and cyst formation in some cases.

Inflammation, rarely terminating in suppuration, occurs in sarcoma. It may lead to cell activity and an abscess may be suspected. But skin infiltration gives way to skin destruction, and a fungous mass appears. Butlin reports a case where a sarcoma in this manner sloughed out of a boy's thigh.

In the stroma of old cancers, especially of the breast, a form of metamorphosis occurs by which the growth is said to wither. The process is rather one of organization, a real fibrillation of the connective tissue. By means of this cicatrical contraction the growth is greatly reduced in size.

It is evident that, as cell activity manifests itself in the growth of malignant tumors, so we see cell life intimately associated with their decay and death.

Are malignant neoplasmata ever cured? If in referring to malignant growths, we speak of effecting a cure, and mean thereby the internal administration of medicine which will aid a given part to resist the further invasion of the disease and to cast off the existing trouble, returning to its normal state, we surely must answer the question in the negative. No one speaks longer of malignant neoplasmata being the local expression of a constitutional taint. The disease begins in the very primitive cells of a part, and in its advance simulates most closely other infectious diseases of local origin. The question is, therefore, to be put in this manner: Can we ever so thoroughly eradicate a malignant tumor that in the future there shall be no recurrence of it locally, nor any remote manifestations attributable to its infection? This we certainly can answer affirmatively.

To say whether, in a given case, a favorable prognosis can be offered, requires a consideration of its period of existence, its seat, its anatomical and clinical characteristics, its extent, the local and constitutional complications, as well as the operative measures to be pursued. As the discussion of these important questions will fall to abler hands, it will only be necessary for me to state a few e - tablished principles.

The greatest hope for the relief of malignant disease lies in its early thorough removal while the disease is still very limited in extent, and before glandular infection is evident. As many cases have passed beyond this stage before surgical attendance is solicited, the ultimate result is greatly imperiled. The primary location of a malignant tumor in an internal organ, where signs and symptoms of its existence are most obscure, or whenever its character cannot be well defined, as in the thyroid gland, early operation is out of the question.

A tumor which in a brief period of time has attained great size and exhibited unusually malignant tendencies, does not present as favorable an outlook for future exemption as does one whose growth has covered a long period, and where indications of local and general infection have long remained absent.

The occurrence of primary growth in a part thoroughly accessible, and whose site forces its early recognition by the patient, leads to the most favorable results. Thus, in the lower lip 30 to 50 per cent of the afflicted are cured. Appearing where with difficulty it can be entirely removed, its thorough eradication is all but impossible. Malignant tumors of the upper jaw present, therefore, but little to encourage an operation. When, futhermore, the removal of a malignant neoplasm demands an operation in itself dangerous, the probability of success is small.

In his recent work upon "The Operative Surgery of Malignant Disease," Butlin strongly denounces the very serious but so-called brilliant operations of recent times for he relief of malignant disease. He refers to statistics of extirpation of the larynx, removal of malignant tumors of the kidney, of the uterus through the abdominal wall, cancerous thyroids, and so on, 364 cases in all, of whom 238 died in consequence of the operation. "Battles, shipwrecks, and railroad accidents" says he, "are mild and merciful compared with some of the these achievements of modern surgery." But it is not my intention to enter upon a discussion of operative procedures.

Without extending my remarks further, it can be safely said that where by an operation a malignant neoplasm which has not awakened secondary infection can be thoroughly removed, we may hope for permanent relief. True, people in after years may become the victims of malignant disease, just as they may twice have pneumonia; but the two attacks need not be more closely related to each other. Great loss of tissue or sacrifice of limbs may be necessary, but the disease is wholly removed.—*Jour. A.M. A.*

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## EPILEPSY FROM A FRONTAL LESION.

At a meeting of the New York Pathological Society, Dr. W.A.Hume (*N. Y.Med.Jour.*) presented a portion of frontal bone showing loss of bone-substance in unusual amount, and a section of the brain through the subjacent anterior lobe, together with a written account of the case. The patient had received the injury in 1881, when 23 years old, from a boiler explosion. An oval area in the forehead, measuring two inches and two-thirds in width by one inch in height, had been broken into fine fragments and forcibly driven in against the brain, lacerating the membranes and a portion of the right anterior lobe. The fragments had been removed and the wound had healed over. The opening in the cranium left was situated in the median line just above the orbits and involved the left orbital plate.

Afterward, from pressure of the brain, ulceration appeared in the line of union, which shortly gave way entirely. The brain protruded through the wound, completely filling the opening in the bone, and had to be returned by compresses and bandages. This time the wound healed by granulation. Curiously enough, up to this point, from the moment of injury, there had been no cerebral symptoms beyond a little delirium and slight increase of temperature, and none occurred until eight months after the injury. Then an attack of epilepsy occurred, and thereafter recurred at intervals of eighteen months. The spasms were general, never

unilateral. At the very beginning of an attack some one group of muscles might be the first to become rigid, but the convulsions so soon became general that this had never been observed.

Between his attacks the skin covering the brain had been seen to recede and advance with each pulsation, but during his seizures all pulsation had ceased, and the skin was firmly drawn back through the bone-opening. As consciousness returned the pulsations became more and more pronounced, and the skin bulged a little beyond the surrounding integument. Ordinarily, when either standing or lying, it was slightly sunken. Three months before his death—November, 1888—convulsions had become more frequent and much more violent, occurring about once a week, with two or three attacks at a time; in the last week they had been nightly, and in the last twenty-four hours there had been sixty of them. During all these years he had seldom had headache, and his mind was unimpaired till just before the end.

At the autopsy firm adhesions were found between the skin, membranes, and brain. The dura had not reformed over a portion of the right lobe, and the pia over the frontal portion of the right anterior lobe was entirely obliterated. The frontal portion of each anterior lobe was softened and disorganized, but more on the right. Some had thought this degeneration due to loss of the integrity of the pia. The membranes in places had seemed to Dr. E. C. Spitzka, who made a microscopical examination, to be drawn into and fused with the cerebral substance; in other places between the two was a trabecular tissue covering an irregular cavity. The gyri surrounding the cicatrix were puckered in toward it in a radiating manner. Sections showed that the white matter underlying the affected gray substance was also affected nearly as far back as the caudate nucleus. The centers or "cores" of all three frontal gyri were converted into a spongy tissue, such as occurred in rarefying encephalitis, its meshes following the course of the nerve-fibers. The projecting ends of two arcuate fasciculi showed distinct fibrillation. Unless secondary degenerations were found, the reader thought the epileptic attacks must have been due to reflex irritation conveyed in some way to the motor tracts. He was not aware of any motor tract situated in the part of the brain which had been found diseased. There might have been fibers connecting with the motor area in the underlying white substance which were either diseased or conveyed the irritation from other affected parts.

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## FLUSHING THE PERITONEUM.

The practice of washing out the peritoneal cavity in abdominal sections where much blood, serum, or other fluid or semifluid matter has been effused, is a most important innovation in modern surgery. Certain well-known and distinguished British specialists are zealous advocates of this flushing of the peritoneum, which they have practised with great success. A full stream of water at blood-heat, poured into the peritoneal cavity, detaches clots, etc., which sponges may fail to remove, counteracts the effects of chill caused by the opening up of the great serous cavity, and likewise acts as a hemostatic. The advocates of flushing insist on the necessity of subsequent drainage.

The good results of flushing the peritoneum, according to the testimony of experts, have tempted others to try the practice, not always with similar success. Indeed, a distinguished French surgeon recently read before the Paris Obstetrical Society an important paper on the danger of flushing the peritoneum during abdominal section. In one case the patient was placed in great peril. In a second case death occurred. A patient, age not stated in the report published, suffered from suppurating oophoritis on the left side, and double salpingitis. At the operation the appendages could not be removed until intimate adhesions had been broken down. The peritoneum was flushed with "hot distilled water," and during the process profound syncope, with suspension of respiration, took place. Artificial respiration was carried on

at first in vain, and a tracheotomy wound was made in the integuments of the neck, when immediately spontaneous inspirations occurred, and the patient thenceforward did well.

In the fatal case the patient was a single woman, æt. 23 years. She took chloroform badly, the excited stage was long, and she readily came to, though plenty of chloroform out of a "new bottle" was administered on a piece of lint. A large cyst had to be shelled out of the broad ligament. As much blood was effused, M. Polaillon determined to flush the peritoneum. He employed distilled water, previously boiled, and containing 1 part of carbolic acid to 100. The water was poured into the pelvic cavity through a wide glass cannula, at a temperature of about 99° F. After the flushing had been carried on for about three minutes, respiration became rapid, then grew feeble and ceased; the face became blue. The heart continued to beat regularly. The alarming symptoms began at a quarter past ten o'clock. Artificial respiration was continued till 11. Then a few feeble inspirations began, and continued for a quarter of an hour; the pupils were then half contracted. The heart beat regularly and quickly. The patient continued unconscious. M. Polaillon immediately closed the abdominal wound, fixing the broad pseudo-pedicle outside. Notwithstanding inhalations of pure oxygen, friction, injections of ether, electricity applied to the level of the attachments of the diaphragm, and other stimulant measures, spontaneous respiration could not be permanently maintained. Once more artificial respiration was tried. Phlebotomy only resulted in the escape of a few drops of very dark blood from the left arm. Gradually the heart's action became more and more feeble, the face grew pale, flatus escaped from the anus, and the pupils dilated. A few minutes before noon the patient was evidently dead. The patient had been thirty-five minutes under chloroform. About one ounce and a half of the anesthetic was used up, but not nearly that amount could have been actually inhaled.

M. Polaillon observed that this death was not only caused by chloroform; the flushing of the peritoneum must also bear a part of the blame. He noted severe syncope in two cases at the moment when he injected very hot water into the abdominal cavity in order to wash coils of intestine and the peritoneum in general. Respiration was maintained in both their cases. In the instance above described at length the coincidence of the flushing with the cessation of respiration was equally marked. He specified that he at first poured about half a gallon of hot carbolized water into the pelvis, and, as the water came out strongly blood-stained to the last, he poured in more water, accidentally hotter than the first supply. The pelvis being full, the water reached the upper part of the abdominal cavity. It was at this moment that respiration ceased. M. Polaillon believed that the stimulus of the hot water touching the diaphragm or the solar plexus caused, by reflex action, the arrest of respiration and syncope. He likened the accident to the effects of a contusion in the epigastric region. This arrest of respiration was liable, as in this case, to remain permanent in a subject under chloroform, which already weakened the respiratory influence of the medulla. He advocated the placing of the lower part of the patient in a lower position than the upper, so as to prevent the water used in flushing from running towards the diaphragm. M. Polaillon also maintained that the water should never be over 99°. Some authorities may think that the presence of carbolic acid increases the danger of flushing. M. Polaillon's case decidedly deserves the serious consideration of all operators, now that the practice of flushing is becoming more and more general.—*Ed. Brit. Med. Jour.*

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## CASE OF COMPLETE INVERSION OF THE UTERUS.

BY ARTHUR JEFFERSON, M.D., B.S., LOND.

The patint, a primipara, aged 20, was delivered be a midwife of a male child. Labor up to the end of second stage apparently pro-

ceeded normally, pains commencing at 7 P. M., and the child being born at 11.30 P. M. Shortly before midnight, I, as honorary surgeon to the Wallasey Ladies' Charity, was sent for. On reaching the patient's house I found her completely collapsed, the radial pulse being scarcely perceptible. On further examination, there was seen protruding from the vulva a fleshy mass, consisting of placenta partially adherent to a pyriform tumor, rather larger than a Florence flask, and quite as hard and as solid to the touch as a dense fibroid; this projected somewhat forward, the upper surface of its neck being pressed up closely against the pubes; per vaginam uninterrupted continuity between its surface and the vaginal wall was made out, the finger being inserted about two inches and a half from the labia majora; no ridge corresponding to the os could be detacted; there had been no abnormal amount of hemorrhage. Meanwhile the patient was continually moaning, "Oh, my back!" "Oh, I'm dying!" There being no brandy in the house, and my ether bottle having upset, I, without further delay, proceeded to reduce the evident inversion. First, the placenta was stripped off; this was adherent over nearly the whole of the frontal zone. No hemorrhage resulted, the uterus being too firmly contracted. Having swabbed the inversion with carbolized water, I grasped it with my left hand and pushed steadily upward, the fingers of the right, applied just beneath the pubes, giving it also a direction backward, while the body of the organ was squeezed between the two palms. Soon the inversion was found to be retreating into the vulva, through which and into the vagina it was followed by the left hand, until reposition was affected, no hemorrhage ensuing; and the interior of the replaced uterus feeling fairly firm and resistant, we turned our attention to the other extremtiy of the patient; who, after a few feeble struggles and faint cries about the pain in her back as the hand was entering the vagina, had now become quite still. Brandy and ether having been fetched, a drachm of the latter was injected, ard teaspconful doses of the former with hot water, given by the mouth; hot bricks were also applied. The first few doses had to be coaxed into her esophagus, but soon she swallowed naturally; some color returned to her lips, and her pulse became more perceptible; she no longer complained of pain in her back, but still persisted in the statement that she was dying. After administering about two ounces of the brandy, fearing to excite vomiting, I directed the midwife to prepare some in an enema; just then the patient began to retch, and finally vomited twice, both times there being a sound as of a lower evacuation. On examination, however, it proved not to be feces, but blood; having by palpation ascertained that the uterus was normal, I injected three grains of ergotin, and applied a firm binder. Almost immediately the patient exclaimed that she now felt better, and in a short time I was able to leave her. Four-hourly enemata containing brandy were ordered, and an ammonia and morphia mixture prescribed.

The patient made a rapid and continuous recovery; her temperature was on only two occasions above normal, and she had no bladder trouble whatever. By the seventh day she had so far improved that she was allowed to suckle her child, and on the seventeenth she could no longer be kept in bed. She was directed, however, to continue for a month a mixture of perchloride of iron and nux vomica, which she had already been taking for ten days. She was not again seen until a month after her labor, when she came to consult me about a sore on her forearm at the seat of the ether injection. At this spot was a thin hard slough about the size of a five-shilling piece. This separated after ten days' poulticing, but the resulting ulcer did not heal until ten weeks after their confinement.

REMARKS.—The cause of the inversion is not very clear, the midwife stated—and her statement was independently corroborated by the patient's mother—that the cord was twice round the child's neck, but not so tightly as she had seen in some cases; she released the loops, and, the child being born, was surprised to see the placenta and inversion follow it,

before she had time to tie the cord. From the account of the patient herself, it appeared that directly after the nurse had told her of the birth of her child, she felt "something come down;" this caused little or no vaginal pain, but was accompanied by excruciating pain in the lumbar region and left breast, together with a terrible feeling of faintness. Reviewing this evidence, it seems probable that the midwife, in pulling on the slack of the cord to release it from the child's neck, may have started an intro-ception of the uterine wall, this passing on into inversion in the usual manner. It should be added that no vomiting occurred, during labor, also that the patient was in bed for some time before delivery. The prolapse (inversion) of the vagina, which also to a certain extent was present, may have been due partly to its own contractility, partly to the pyriform shape of the inversion, which caused it to be squeezed out, as it were, through the vaginal orifice, bringing down the upper end with it. The existence of such firm contraction of the uterus, notwithstanding the extreme collapse of the patient, was not altogether to be expected; nor the ease with which, although so rigid, it yielded and was replaced. Again, one rather anticipated retention of urine; none, however, occurred; on the other hand, the disastrous local effect of the ether injection was quite unlooked for. Finally, with regard to the treatment immediately after reduction, it seemed evident that too much stress was laid on the value of the ether and brandy; a firm binder applied at once would have been much more to the purpose—by emptying the abdominal veins—in bringing the patient out of her stage of collapse; the retching and vomiting probably acted in the like direction.—*Lancet.*

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## PEPSIN IN SURGERY.

BY HENRY B. DOUGLASS, M.D., NEW YORK.

The digestive ferments have only recently attained that state of perfection which enables the physician to use them successfully in the various derangements of the digestive tract, and as a solvent by local application to the diphtheritic membrane. This last use of the ferments suggested to me their use in surgical cases, and for some months past I have been using pepsin in surgical work. Pepsin is best applied in the form known as "pepsin in scales," or as an ointment with lanolin as a base:

℞ Pepsin, - - - 50 grs.
Lanolin, - - ℥ss. M.

The cases cited below illustrate some of its applications.

1. In ulcerations:

Case I.—Mrs. T., had a varicose ulcer of leg covered with thin adherent membrane, beneath which were weak granulations. Around the ulcer for an area of two inches was an acute eczema. The ulcer was foul smelling. Pepsin ointment with cotton dressing was applied. In five days the dressing was removed. The eczematous patch was less inflamed, the discharges not offensive,and the membrane was entirely dissolved. The granulations were healthy. Bismuth was now applied and the ulcer was soon healed.

Case II.—Mrs. M. D., presented upon the middle of the tibial crest a varicose ulcer. The base of the ulcer was covered with a thick yellowish membrane. "Pepsin in scales" was applied to this ulcer. In one week the membrane had entirely disappeared and the ulcer was in a healthy condition.

Case III.—M. D., has a large epitheliomatous ulcer (rose cancer) of the neck. The centre of the ulcer is sloughing rapidly. The whole surface of granulations is covered with a membrane. The secretion from the ulcer is abundant any very foul. Pepsin ointment was applied daily to ulcer. In two days the surface of granulations was free from membrane and they looked smaller and red. Wherever the ointment was applied the sloughing ceased, but from the deeper parts of ulceration the discharge was unchanged.

2. In cicatrical contractions:

Case I.—D. H. J., two weeks ago had a periostitis of first phalanx of middle finger with cullulitis of palm of hand. The result-

ing abscess was lanced in two places. When he came under my observation the suppurative process had left much inflammatory induration in the palm of the hand, extending to the second phalanx. There was a small sinus leading to bare bone on the first phalanx. The patient was unable to flex the finger because the flexor tendon was adherent to its sheath, and could not extend it on account of the cicatrical contraction following the abscess. Pepsin ointment was applied to the palm, and the whole covered with a cotton dressing. In three days the sinus had closed and cicatrix was much softer. After six days the palm was markedly less indurated, and the patient could flex the second phalanx completely. In ten days the patient was able to resume his employment as a cutter, and was fully able to hold the knife steadily in his hand.

Case II.—Mrs. M. W., had a parotid abscess complicating pyemia. The abscess opened spontaneously, and soon healed. There resulted much induration and considerable thickened cicatrical tissue, extending from the angle of the lower jaw to the zygoma, and from the sterno-mastoid muscle to the border of the masseter muscle. This cicatrical tissue produced anchylosis of the lower jaw on the affected side, so that the patient was unable to open her mouth enough to admit solid food. Pepsin ointment was applied twice daily. In one week there was marked improvement in opening and closing the mouth, and the tumor had nearly disappeared. In two weeks there was no trace of the swelling, and movements of the jaw were perfect.

Remarks: 1. In all ulcerations covered with a slough, or having a membranous base, pepsin is of use to digect this slough and bring about a healthy condition. 2. The efficiency of pepsin cases when the slough has dissolved. 3. In cicatrical tissue causing anchylosis pepsin is of use by dissolving the cellular element. In this condition pepsin may act similarly to mercury and the iodides, or as a digestive.—*Med. Rec.*

## THE COMPARATIVE BEHAVIOR OF DISEASE AND REMEDIES IN CHILDREN AND ADULTS.

Dr. W. H. Dickinson, one of the consulting physcians to the London Hospital for Sick Children, chose this subject as that of a recent introductory lecture at the institution mentioned. The lecture, which has been published in the *Lancet*, seems to have been intended largely as an argument in support of the plan of providing separate hospitals for children, and it is certainly a cogent one; but it is of interest chiefly as embodying a parallel between children and adults in their behavior under disease and under the action of drugs. It contains little of anything that is new, but it is a convenient summary of the leading facts known of the subject.

It can not always be said of a sick person that his youth is in his favor; on the contrary, it is sometimes to his advantage that he is not young. "We may be old, battered, gouty and atheromatous," says Dr. Dickinson, "every part about us blasted with antiquity; our arteries are apt to break, and that suddenly; but we get slow, and some of our disorders partake of our disposition." Owing to the activity of nutrition in the young, it may be said in general terms that diseases involving new growths make more rapid progress than the same affections in adults, a notable example of which is seen in cases of sarcoma of the kidney. The same is true of the overgrowth of normal tissues; cirrhosis of the liver, although rare in childhood, runs a rapid course, and so does interstitial nephritis. Loss of blood and of other fluids is proportionately ill borne by children, and exhaustion is prone to occur early and suddenly in diseases that are slow in bringing grown persons to a grave condition; hence the numerous deaths of young children from mere diarrhea, while all the organs are still but little if at all impaired anatomically. Although the almost complete restriction of rickets to early childhood is well known, it is perhaps not so generally known, says the author, that a defective diet is apt to cause scurvy in infants. Sore gums, purpura and

hemorrhages, especially by way of the kidneys, he has always been able to trace to deprivation of fresh milk of good quality, condensed milk not possessing enough of the antiscorbutic property of fresh milk.

Rheumatism is relatively infrequent in young children, but in them it is particularly prone to attack the heart. Diabetes mellitus runs so rapid a course that it may cause death in a child in as few months as it sometimes takes years to produce the same result in adults. Among inflammations, it is to those of the brain that children are peculiarly liable, and meningitis that is not tubercular occurs more frequently than was formerly supposed. This is attributed to the exceptional activity of cerebral nutrition and development in the young. The mortality of children from pneumonia is to be imputed rather to the greater frequency with which they are attacked by it than to its proving fatal in a disproportionate number of instances. They are more liable to purulent pleurisy than adults, but a greater number may be cured by simple aspiration. Typhus is rarely seen in childhood, and when it does occur it is less dangerous than in grown persons. Typhoid fever varies less in the two classes of patients; it is seldom seen in infants, but Murchison once found evidence of it in a post-mortem examination of a child six months old.

Among the drugs to the excessive action of which children are particularly susceptible are opium and alcohol; among those of which they are remarkably tolerant is belladonna, as shown in a case cited in which seventy grains of the pharmacopeial extract were given daily to a girl ten years old. In regard to mercury, children with congenital syphilis seem to thrive on its use, but in other diseases it often produces injurious effects; the author has seen not a few instances of salivation, and two in which the cheek was perforated. In general, children respond to treatment, as they often succumb to disease, more readily than older patients, so that with them the physicians responsibility is the greater.—*N. Y. Med. Jour.*

## DELINEATIONS OF INSANITY BY THE INSANE.

At a meeting of the Section in Neurology of the New York Academy of Medicine, held December 14, 1888, two series of specimens of unique interest were presented, and comments thereon read by Dr. Frederick Peterson and Dr. William Noyes. The former read extracts from the autobiography of a religious paranoiac. The writer of this book, although he had died in an insane asylum and had had occasional attacks of violent mania, had been a person of unusual intellectual attainments. His style of composition was graphic and refined. The narrative was straightforward and continuous. The religious delusions became more marked in the later parts of the book, the composition of which had engaged several of the closing years of his life. This book, written in a distinct, graceful handwriting, was passed about for inspection.

The history of his life, and especially of his internal states of feeling, is both curious and startling. Very noticeable in his account is a certain delicacy and psychological accuracy with which he has depicted and analyzed his own mental maladies. He portrays clearly the growth of a morbid sensitiveness which made him shun contact and speech with his fellows. Their remarks on himself he was always listening for and brooding over. In time it became so that he translated any voices that he heard at a distance into facetious or contemptuous remarks about his own peculiarities. This scorn, expressed or imagined, besides causing him profound depression, also at times stung him to madness, and led to many plans for revenge, usually of a bloody sort, but these he was utterly unable to carry out. The beginnings and growth of other hypochondriacal delusions are described in a realistic and skillful manner. What is more remarkable, he even had at times "a conception of the sane and able man that he might have been towering up beside him, while he felt himself sinking deeper and deeper into egoism and impotency." He also

readily comprehended insanity in other inmates of the asylum. Their delusions seemed quite amusing to him. In one instance, however, where fits of violent and abusive anger were the usual manifestation, he never conceived of the man as irresponsible in the matter, and hated him so wildly that nothing short of a murder would have done justice to his feelings.

Dr. Noyes presented numerous specimens of the work of an insane artist, comprising crayon sketches, water-color painting, clay modelings, and decorated articles of clothing or personal belongings. In all of them a peculiarly morbid and fantastic character was manifest. This was particularly marked in the distortions which he invariably made in his representations of human faces. Some quite intricate and highly elaborated diagrams in water-colors were designed to illustrate the author's theological conceptions of the universe and God.

The articles of clothing or personal decoration embodied a fantastic idea as to a proper economy in utilizing any fragments of however widely differing origin—wish-bones, buttons, feathers, etc., such as he had found scattered about the grounds of the asylum. This artist had in earlier life been a man of brilliant social gifts, and had also had something of a career as an illustrator of books. He had always been known in New York, however, from the carelessness of his work in detail, as "the unfinished artist." His aversion to continuous application became increased with each year of his life.

Any thoughtful reader of these brief sketches will see how unmistakably the processes of the insane mind are exaggerations of what are scarcely more than peculiarities in men and women about us in ordinary life. It becomes more and more evident that insanity represents weakness of mental and moral structure; and that, whether with a view to restoring the balance of faculty or not, the only rational plan of dealing with insane people must be one which has in it no disrespect to the feelings of the patient. Both policy and the duty of a stronger nature to a weaker seem to require that the morbid susceptibility to being wounded by the contumely of his fellows, which is often so highly developed in the possessor of a "mind diseased," should be met with all gentleness and, if possible, even friendliness.

The same principle would also seem to be necessary in dealing with some classes of unfortunate or depraved people who are not confined in asylums.—*Ed. N. Y. Med. Jour.*

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## THE USE OF THE FORCEPS, THEIR INFLUENCE FOR GOOD AS WELL AS FOR INJURY TO THE PARTURIENT WOMAN.

Dr. Paul F. Munde, of New York City, in response to special request, sends us his opinion regarding "The Use of the Forceps Their Influence for Good as Well as for Injury to the Parturient Woman." He says:

"I have always considered the obstetric forceps one of the most useful and beneficial instruments in our armamentarium, one which, in skillful hands, and with proper care and judgment, can never do harm either to mother or child, but will often be the only means of saving the life of one or the other, or of both, or of sparing the mother the consequences of delayed delivery and excessive pressure of the soft parts.

"Injury to the mother by the forceps is usually due to their too early application, before the cervix is well dilated, or to the use of excessive or misdirected force in making traction. A cervix may, but need not, be torn by the forceps. A perineum should never be injured by forceps; indeed, the gentle and dexterous guiding of the head over the perineum, so as to permit its gradual distention, is one of the means of preventing that injury. Too much haste in delivering the head with the forceps, is the usual cause of a laceration of the perineum in instrumental delivery.

"Abuse of the forceps, in my opinion, consists in applying them merely to terminate the labor for the sake of the medical atten-

dant; or, when the soft parts are as yet unprepared, or the head is too high, or the pelvis is too narrow.

"The correct indications for the use of the forceps are perfectly clear to a well educated and evenly balanced, conscientious accoucheur. His own convenience certainly should not be an indication for their use. But, if he knows his skill to be equal to the case, and feels that he can safely deliver the woman with forceps, he should not hesitate, the conditions being favorable to their use and the labor making no progress, to use them after waiting a reasonable time (say two or three hours, without any progress whatever), and thus save the mother unnecessary suffering.

"In short, I think that more harm has been done by too long delay in applying the forceps, and by their unskillful, rude use, than by their too frequent application by skillful hands.

"As for the Tarneir forceps, I confess never to have used them, although I think the principle a correct one, and one which is calculated to save the obstetrician's strength. Their employment is naturally restricted, more or less, to a high position of the head, chiefly in primiparæ. I have found a Simpson's forceps, with Elliot's screw in the handle to prevent too great compression of the head, perfectly sufficient in my practice, which, obstetrically, is now entirely a consulting one.

"In conclusion, I would say that a slight indentation, or abrasion, of the child's head by the forceps blades cannot always be avoided, particularly in high cases, and such an occurrence should not be considered necessarily as an abuse or unskillful use of the instrument.

"Of course, this subject can be continued indefinitely. I hope I have answered your question with sufficient clearness to suit your purpose."—*Practice.*

## BOOK REVIEWS.

Atlas des Maladies de la Pean (Dermatologie et Syphiligraphie), par Dr. Silva Aranjo, Professor of Diseases of the Skin and Syphilis at the General Polyclinic, Rio de Janeiro; Honorary Professor in the Faculty of Medicine, University of Santiago, Chili, Member of the Imperial Academy of Medicine of Rio de Janeiro; of the Medical Society of Santiago, Chili; of the Society of Medical Sciences at Lisbon; of the Algerian Climatological Society; of the Belgian Society of Microscopy; Editor of *L'Union Medicale*, of Rio de Janeiro.

G. Leuzinger & Filhos, Rio de Janeiro.

The first three fasciculi of this atlas have been received. In the first the author gives his attention to trichomycosis favosa (tinea favosa). His comprehensive description is well illustrated by a chromo-lithograph in six colors, in which the characteristics of the disease—save the odor—are graphically represented.

The second fasciculus treats of trichomycosis pustulosa barbæ (tinea sycosis parasitica), and also contains a chromo-lithograph, illustrative of the affections, and a lithographic plate showing the microscopic appearances, the mode of invasion, etc., of the trichophyton tonsurans. Amongst the medicaments mentioned for local use in this form of sycosis, powdered araraba, first brought into notice by M. Silva Lima receives the highest recommendation.

Following out the method adopted in the first two fasciculi the author introduces the subject of the third fasciculus with the clinical history of a case of elaphantiesis, which occurred in his own practice. A series of portraits in phototype show the progress of the case which, in this instance, is the reverse of the order usually observed in that affection, *i. e.*, it resulted in the reduction of the tumor in each leg as follows: At the beginning of the treatment in December, 1879, the circumference of the right leg, at the junction of its middle and upper thirds, was 62 cent.; of the left one at same site, 55 cent. In November, 1886, measurement gave, for the right leg, a circumference of 31 cent. (decrease, 31 cent.); for the left, 26 cent. (decrease, 29 cent.).

The treatment used was electrolysis, of which 230 seances were necessary. Both the continuous and induced currents were employed. At the same time the patient took sya. frori iodidi.

The work is written in French, because Dr. Aranjo says that language is more universally used, especially in medicine, than that of his own country, Brazil.

Bransford Lewis, M. D.

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## CURRENT LITERATURE ON GYNECOLOGY WITH ANNOTATIONS.

THE VAGINAL LIGATURE OF THE UTERUS AND ITS EMPLOYMENT IN RETROVERSION AND PROLAPSUS UTERI.

ANTIPYRIN IN MENSTRUAL COLIC.

MENSTRUAL FLOW—ITS PLACE OF ORIGIN.

ELECTRICITY IN SUBINVOLUTION OF THE UTERUS.

### THE VAGINAL LIGATURE OF THE UTERUS AND ITS EMPLOYMENT IN RETROVERSION AND PROLAPSUS UTERI.

The Jan. '89 number of the *Amer. Jour. of Obstet.* etc., contains the following paper, read by N. Sohuecking before the German Gynecological Society, held at Cologne:

Several years ago when I was busy at the task of devising a non-dangerous and certain method of bringing the retroflexed and prolapsed uterus permanently into the normal posision without means of support, two ways offered to me which seemed liable to lead to this result. In the first piace, there was the possibility to carry a ligature from the uterine cavity to the abdominal walls. Such a procedure, however, involved the danger of injury to the intestine and subsequent volvulus, and again it was not possible to exclude infection with certainty in this way. Moreover, owing to the distance of the fundus uteri from the abdominal walls with the resulting strain, no permanent effect could have been expected from an operation which could produce only an adhesion of slight extent. For these reasons, the object in view could be attained only by an insertion of a suture which would fasten the fundus anteriorly and laterally to the vaginal wall, and lead to an adhesion of the uterine peritoneum to the lowest part of the vesico-uterine fold or that portion of the peritoneum situated laterally to this fold. This procedure at the same time permitted a fixation of the uterus in the most acute angled anteflexed position. This latter factor is of the greatest importance. Fixation of the uterus to the abdominal wall will only be followed by an anterversion and anteposition of the previously retroflexed organ. It is obvious that this condition is more liable to favor the occurrence of a retroflexion in case the cicatrix stretches than when the organ has been for some time in acute anteflexion and its anterior wall has been adherent to the anterior pelvic wall by a cicatrix of greater extent. But several objections presented themselves to a ligature from the fundus uteri towards the antero-lateral part of the vagina. Was it permissible and free from danger to perforate the uterus with a stout needle, observing all precautionary measures? Given a sufficiently disenfected genital canal, and the needle projecting from an instrument like the one here demonstrated, this question could be answered in the affirmative without hesitation. Numberless times has the uterus been perforated with dull, and without doubt not rarely dirty instruments, where the genital canal had not been cleansed; and even in these cases, in which the conditions for infection were as favorable as could be imagined, serious sequels have not been experienced, to my knowledge. Another objection was suggested by the necessity of avoiding the bladder in placing the ligature. But this objection likewise is to be set aside, for in placing the

ligature the bladder can be forcibly crowded to one side with a sound; however, if the needle in spite of all precautions pierce the bladder-wall, this is of small importance according to my experience, since the minute needle puncture closes immediately after the removal of the thread. At least the three cases in which I had included the bladder-wall passed as favorably as the twelve others. Injury to the intestines can be absolutely excluded, since the ligature traverses the place occupied immediately before by the bladder. But where the adhesions are firm I did not perform the operation. Finally, it seemed to me difficult to construct an instrument whose needle could be given the backward move ment to enable it to emerge again at the an terior vaginal wall after perforating the fundus. If the non-prolapsed or deeply descended uterus is drawn ever so far down, the fundus, especially if that organ is enlarged, still stands rather high over that purt of the descending pubic ramus beneath which the needle is carried. Of course, this relation will be all the more unfavorable with a greater degree of acuteness of the angle of the pubic arch in the case in question. Another demand made of the instrument was, that the point of the needle during its passage through the uterine cavity should remain concealed, since otherwise it would scarcely have been feasible to make the needle reach the fundus without some preparation, especially in virgins. For the latter reason, as well as because it was advisable to keep the points of perforation small, the instrument had to be constructed as lightly as possible, and yet strong enough.

Using an instrument constructed on these principles by Loewy, of Berlin, the manipulation required was as follows: First, the genital canal was thoroughly disinfected. In order to secure this the more perfectly, I placed in the vagina for some hours previously a tampon saturated with three-per-cent carbolic solution, and carefully disinfected the endometrium by means of an aluminium sound with tincture of iodine, carbolic acid, or chloride of zinc. The healthy endometrium is usually free from schizomycetes, but in displacements we almost always observe pathological alterations in the uterine mucosa.

Of the twelve cases of retroflexion operated upon by me, I have placed the ligature in eight without anesthesia; in the three cases of prolapsus uteri I have always operated with anesthesia. While anesthesia may be entirely dispensed with in prolapsus, I would recommend it for the majority of cases of retroflexion. Drawing down the uterus may be very painful, especially when adhesions are present. The patient is in the ano-dorsal position. The urine having been evacuated and the lower blade of Simon's speculum having been introduced into the vagina, a long Muzeux tenaculum forceps is placed into the anterior lip of the cervix, and the previously retroflexed uterus is brought into anteflexion with a stout uterine sound. Now the instrument, armed with a stout silk thread, boiled in five-per-cent carbolic solution, is introduced to the fundus, the needle being retracted. With the right hand, which holds both the Muzeux forceps and the needle holder, the uterus is drawn firmly downward, so that the os points to the left, the fundus somewhat to the right. With short lever movements we now endeavor to place the fundus uteri so that we can determine with the index finger of the left hand the spot where the point of the instrument is. It will be desirable now to let the assistant crowd the bladder to the left. With the thumb of the right hand the needle is slowly projected, during which act the instrument is slightly depressed, when the needle—not without employing some greater pressure—will generally appear below the index finger of the left hand. It is advisable to use the instrument with some care, lest it be bent by the employment of excessive force. In parous women, whose uterus is not enlarged and whose pubic arch is shallow, the manipulation as described succeeds readily, and still easier is this small operation in descensus uteri, as well as in prolapse of the organ. The ligature is now grasped with a bent hook, drawn out a short

distance, and cut from the needle. The instrument is then removed by the same way by which it has been introduced, and the two ends of the ligature are firmly tied with a surgical knot and cut off, but not too short. Finally a bacillum of iodoform is placed in the bladder, another in the vagina, and the manipulation is finished. As a precaution I have always placed an ice bladder for twenty-four hours on the lower part of the abdomen, and in order to lessen the tension of the ligature, flexed the thighs at the hip. After three days the patients were allowed to sit up in bed, and were permitted to walk about from the fifth to the sixth day. Until the ligature was removed, an iodoform bacillum was inserted every two or three days into the vagina. There was no fever in any of my cases, only now and then slight pains were complained of. The most constant symptom in the twelve cases of retroflexion was bladder trouble; on the other hand, in all cases of prolapsus of the organ, the former bladder symptoms had disappeared after the operation. If we bear in mind the topographical relations of the uterus and bladder, and consider particularly that in retroflexion of the uterus the bladder was completely freed from the pressure of the uterus, we shall not be surprised at such disturbances immediately after producing an acute-angled anteflexion. In one case, incontinence of urine occurred for one day after operation; in another case, the patient had to be catheterized for two days; in four cases, the patients had to be catheterized once after the operation; in the remaining nine cases no catheterization was necessary after operation. As I have stated above, in three cases a few drops of blood had escaped into the bladder—a sign that the bladder had not been sufficiently crowded aside and had been included in the ligature; but this circumstance was not followed by any untoward consequences. In every one of the fifteen cases the bladder symptoms disappeared entirely after removal of the ligature.

In the first case of retroflexion, the ligatures were removed after six days; in the remaining cases, between the ninth and fourteenth days; in the three cases of prolapsus, after three weeks. In all the cases, the ligature had cut into the anterior cervical and the vaginal wall, but the portion lying behind the ligature had again united. It may be assumed that, in the same way as at the os and the vaginal wall, the ligature also slowly cuts into the fundus uteri while the cut tissue behind it again unites. This linear quality of the cicatrix furnishes the explanation why the adhesion between the anterior wall of the body of the uterus and the opposite portion of the peritoneum becomes so very intimate, although only a single ligature is inserted. From my own observations I am inclined to assume that this adhesion extends from the height of the fundus to the anterior reduplication of the peritoneum or, say, about to the region of the internal os.

The result obtained with my method was as follows: Excepting the first case of retroflexion, which should be excluded, because I removed the ligature too early, I secured in all cases of retroflexion a complete cure, *i. e.*, a pronounced anteflexion; and in the cases of prolapsus I attained an equally perfect restoration. In two cases of retroflexion, adhesions were present, but the uterus was still fairly movable; about the second case of total prolapse of eighteen years' standing I have had news a few days ago by the attending physician. Dr. Heilmann, of Melle. The operation was performed on July 16th; and on September 14th, or two months later, the doctor reports that after bimanual examination he could detect no change in the favorable result.

With the removal of the retroflexion, the symptoms due to this anomaly, such as pressure in the pelvis, sacralgia and headache, dysmenorrhea and menorrhagia, likewise disappeared. Endometritis and metritis of the organ usually also showed a distinctly favorable influence from the correction of the faulty position. Thus in three cases the treatment caused an immediate cessation of the pre existing leucorrhea. I may add that after removal of the ligature the acute-angled anteflexion disappears at once, and the uterus is

found in normal position, slightly anteflexed. So-called anteflexion troubles I have not observed in any of my cases after removal of the ligature. I hope that by this report I have done justice to the most essential points according to which my procedure can be judged. I believe that hardly a single plausible objection can be advanced against the vaginal ligature of the uterus which I have not entertained myself before deciding on the treatment about described. My experience, as well as the reports of others (the chief of the City Hospital at Danzig, Dr. Baum, informed me recently that he had employed the method with good effect, so far as he could judge, and intended to use it in a number of appropriate cases), permit me to conclude that my method in all cases of retroflexion which are not immovable, and of prolapsus uteri, as well as in many cases of adherent retroflexion, may be called a simple, not dangerous, and reliable mode of treatment.

[The above paper is presented in extenso that a clear comprehension of the procedure may be obtained by the readers of the REVIEW. I imagine that few gynecologists who are animated be the sentiment, "do unto others as you would by done by" will be found willing to recommend to their patients this remarkable method of relieving retroversion and prolapsus uteri. Retroversion in itself, independent of associate states of the adnexa, usually occasions an inconsiderable degree of trouble, and I regard a resort to so serious a measure as the one recommended in the above paper in the great majority of cases as highly reprehensible. We are not justified in jeopardizing a woman's life that we may relieve her of a minor ailment.

The degree of temerity that seems to characterize some is simply amazing. The query should be extended to them, are you conscious of the fact that your subjects are endowed with the same love of life, hope, fear and aspirations that find expression in your own bosom?

I am satisfied that the dangers of this operation are far greater than Schuecking's recorded experience would warrant us in believing. And again if the inflammatory states of the adnexa be properly treated and relieved, no great difficulty will be experienced in relieving most cases of retroversion by means of a properly fitting pessary, worn sufficiently long for the uterine ligaments to regain their normal resiliency and strength, and the uterus resume its normal weight under the influence of position, treatment, etc.

I do not believe that anyone would be justified in incurring the risk of serious cystic derangement with the slender hope of being able to hang up by means of the bladder-attachments a prolapsed uterus].

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## ANTIPYRIN IN MENSTRUAL COLIC.

Dr. Windelschmidt, in *Med. Chirurgische Rund.*, employs antipyrin by means of enemas of 30 grains in severe cases of cramp and colic during menstruation. It proved to be an excellent sedative in such cases, its action ordinarily occurring within half an hour, although in some cases the injection had to be repeated after 12 hours. In two cases especially referred to, where, after nearly every well-known method of treatment had failed to prevent most violent pains and colic lasting through the entire eight days of menstruation, injections of antipyrin in the morning and evening produced the most wonderful success; ordinarily this relief was accompanied by narcotic effect, the patient falling asleep and waking entirely free from pain; no unfavorable action, with the exception of profuse sweating and frequently slight ischuria, was ever observed. For prevention of collapse of a glass of wine is ordinarily administered.—*Arch. Gynecol.*

[The dose of antipyrin indicated is large, and considering its depressing effect upon some persons, will scarcely be regarded as a safe dose to begin with in all cases. As a measure of relief whilst more radical means of cure are in progress, its use is to be commended, and will sometimes be found more satisfactory than the preparations of opium, chloral, etc].

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### Menstrual Flow, Its Place of Origin.

Dr. E. J. Chapin Minard, in *N. Y. Med. Jour.*, describes a case of inversion of the uterus where a dark, healthy flow, but without epithelia, had come from the tubes, which were under direct observation. The uterus had during the whole epoch been congested and bright red, but at no time moist enough to stain a piece of paper rubbed over its surface. The tubes were dilated at their openings. Judging from the anatomical make-up of the womb and from various clinical facts, she was convinced this was the natural order of things, and that, while epithelium and debris of decidual origin were washed away, no blood escaped from the uterine wall. Sometimes when, in doing Battey's operation, the surgeon failed to remove the tubes close up to the uterus, menstruation had continued although no ovaries remained.

[The observations given in the above case are interesting, but to be of pronounced value in determining the source of the menstrual discharge, many such cases would be necessary in view of the facts already possessed bearing upon the subject. Dr. Johnson, of Danville, Ky., has recently advanced new and well-sustained theories respecting menstruation, attributing to the mucus surface of the uterus an adenoid character. His articles upon this subject are learned and well worthy of the thoughtful attention of every student of medicine].

### Electricity in Subinvolution of the Uterus.

C. A. West, M. D, in *Chicago Med. Times.* —During the winter of 1879, I had a number of cases of subinvolution, diagnosed within six weeks or two months after confinement. I was practicing in the country and had a small Faradic battery that I carried in my buggy with me to treat rheumatism, which was prevalent at that time. In one case there were sub-acute rheumatic pains in the joints, and as the lady, who had only recently been confined, complained of pain through the pelvis, with a long train of other symptoms, and in the course of the sciatic nerves, I applied the current there as well as through the limbs. I placed the positive electrode of the battery over the sacrum, and the negative pole over the lower part of the abdomen. I was surprised at my next call at the extreme benefit the lady had derived from the current, and repeated it twice afterward, when it no longer seemed needed.

Shortly after, I had a patient who was getting up poorly from her confinement, with wandering pains through the pelvis, dragging sensations in the lower part of the abdomen, frequent and painful urination, pain in the sides and back, frequent recurrence of "a show," etc. I made an examination, and discovered that the womb was very large and engorged, had settled down into the pelvis, and was thus the cause of the trouble. I was impressed with the similarity of the symptoms with those described by the patient first referred to, and for the first time I was convinced that both patients were afflicted alike, and that electricity was the treatment for this patient. I used it, and with marvelous results.

Since that time I have used it a great many times, and always with some benefit; sometimes much more marked than others. Invariably where the patient gets up too soon and goes to work before the process of involution is complete, retarding the process and bringing on that long train of symptoms so well known it has never failed with me to produce a marked and rapid cure.—*Arch. Gynecol.*

[The method of using electricity here presented for the relief of subinvolution of the uterus will not be found to accomplish the purpose so readily and promptly as might be inferred from the above article. The method is faulty in that greater efficiency would have been given the electric current by passing one electrode into the vagina and placing the other over the sacrum. I indorse the use of electricity in this connection, but am free to say that no miraculous result is to be looked for from its use. It is an agent that requires time and intelligent application for the display of its power in this connection].

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SATURDAY, JANUARY 26, 1889.

## SPECIALISTS AND MEDICAL SOCIETIES.

The editor of *Progress* says he has observed the curious and varied accusations against specialism, and from a careful study of the question it is apparent to his mind that the better class of specialists are, in fact, largely in the majority of the working members of all the regularly organized medical societies. He is opposed to the division of the profession, just as he is to exclusive specialism in medical education. A limited field of practice will alone afford time for the study of the whole range of medical literature. A thorough general medical education affords the only proper basis for the study of any specialty.

All practitioners in the ranks of the regular medical profession are specialists. Da Costa is as much a specialist as Keyser. Pancoast is as much a specialist as Goodell. Sayre is a specialist, so are Gouley, Flint, Loomis and Baker. Now for the proof.

Da Costa is known to the medical world as a skilled expert. In what field? The diagnosis of general systemic diseases. Flint and Loomis are specialists in the same department; whilst Goodell is a gynecologist, and Pancoast a surgeon exclusively. These gentlemen are commonly denominated general practitioners. It is the custom for Da Costa, Flint and Loomis to write about fevers, respiratory and digestive disorders, constitutional infections, not requiring surgical treatment. They do not discuss Potts' disease, nor the extraction of cataract. Their opinions in vaginal hysterectomy have not been heard in the societies.

It seems really that the profession of medicine should be divided into those who work and those who do not. It is apparent at the society meetings, as Dr. Wm. Bailey said last year, on retiring from the presidency of the Louisville Medical Society: "The working members of a society really represent about ten per cent of its membership, the remaining ninety per cent are either silent or devote themselves to quiet and unimportant criticisms of the work of their more active colleagues."

[The editor of *Progress* is an accurate observer and his conception of the relation that should exist between the specialist and general practitioner is a just and true one. The jealousy that has prompted many to seek to force a division and array one class against another is wholly unworthy of physicians. No one can deny that it is by practice only that we can become proficient in anything we attempt, that is at all difficult of accomplishment.

A diploma from a reputable medical college confers on its owner the privilege of treating any and all diseases to which flesh is heir, provided the patients desire his services. Let the physician's conscience decide whether or not he is able to render to the patient the service which the latter seeks.]

## SOME TENOTOMIES FOR HETEROPHORIA.

It is probable that all the readers of the REVIEW have heard something of the work which Dr. Geo. T. Stevens, of New York, has devoted much time to during the last two or three years. It is not likely, however, that many have taken the care necessary for a clear understanding of the subject.

Dr. Stevens has introduced a number of new terms which are very formidable at first sight, but when one gets accustomed to them, they are of great assistance in describing the special conditions that obtain when there is a lack of proper ballance in the muscles that move the eyeballs. Everyone is familiar with the very high degree of this lack of ballance, in which one or both eyes habitually squint.

Dr. Stevens has called special attention to the various troubles that may arise from the low degrees which cannot be detected except by special examination. He has also devised a new method of dividing the tendons of the ocular muscles by which the strength of the muscles operated upon can be reduced any degree desired.

The results reported by Dr. Stevens seemed too good to be true, and not a few members of the profession were not only unwilling to accept them, but were inclined to think Dr. Stevens had added nothing to our stock of knowledge. In this connection we publish an extract from a paper by Dr. David Webster, of New York. He operated upon forty patients, upon each of sixteen of whom he did a second tenotomy. He says (*N. Y. Med. Jour.*): "The tenotomies performed by me were all, or nearly all, done according to the method described by Dr. George T. Stevens in his paper read before the New York Neurological Society in April, 1886. The tendon was button-holed at its center, and divided both ways until its attachment to the sclera was entirely severed, and then, if necessary, it was further freed from its attachments at either side until the heterophoria was corrected. I always aimed at a slight overcorrection and generally hit the mark. But in three cases there was too great an overcorrection and I had to do the operation which I had seen Dr. Stevens do for readjustment.

Nearly all the patients operated upon were more or less benefited—some only temporarily, some apparently permanently. In only one case had I reason to regret that I had operated, and that was a case in which, having cut both externi, I got an overeffect after the second tenotomy and had to readjust the muscle. The patient has since complained of diplopia on looking far to the right or the left. I have seen a case of irremediable diplopia produced by tenotomy, but I think the operation performed must have been like the old one for squint. The diplopia came on after such an operation by a western ophthalmologist, and Dr. Stevens had failed to remedy it by nineteen subsequent operations, according to the patient's statement, so that I thought the case might properly be set down as incapable of cure. I think there is little if any danger of diplopia following an operation done after Stevens' method. The operation should always be done under cocaine and the effect produced should be measured at intervals during the operation, and the surgeon should be ready to stop cutting when he has got just enough effect. Three of my tenotomies were done under ether or chloroform—two in the case of a child, and one in the case of a man whose continued semi-convulsions prevented him from keeping still enough for a delicate operation upon the eye.

Four of the patients operated upon were epileptics. The epilepsy was not cured by the operation in any case. In another case the fits were favorably modified, although the epilepsy was organic; in a third case there was temporary improvement, but subsequently the patient was worse than ever. In the fourth case the fits had been suspended for over six months, and the operation was done more for the relief of asthenopia than for epilepsy, and with very good result.

Two of the patients were the subjects of chorea. One of them, a child, six years and nine months old, had both externi cut under ether, to correct a divergence which occurred on his attempting to fix, and which seemed to interfere with the comfortable use of his eyes. He seemed to have derived a considerable amount of benefit from the tenotomies. His mother was sure that he "walked better and looked better." He was also more quiet. The other, a girl of twenty-six, had both externi cut, and, when orthophoria was produced, reported that she was much improved.

There certainly can be no objection to restoring the proper balance of the ocular muscles, when it has been lost, in cases of epilepsy and chorea, but, judging from my personal experience, it does not cure either disease. Aside from the cure of the disease, however, enough good results in relieving asthenopic symptoms to justify the procedure.

One or two hysterical patients were oper-

ated upon at Dr. E. C. Seguin's suggestion with surprisingly good results. One gentleman, a civil and mining engineer from the West, had come to Dr. Seguin with a diagnosis of "incurable spinal disease." Dr. Seguin found "spinal irritation" of extreme degree. He had been unfitted for business by "semi-periodical paroxysms of excruciating pain in which he made contortions, semi-involuntary, which had been termed convulsions." I found him in one of these attacks when I went to his room prepared to operate upon one of his interni. I sat with him over an hour, during which the agony and the plaintive cries and the apparent convulsions continued without remission, the patient constantly writhing in the most intense pain, until Dr. Seguin arrived and we gave him chloroform and divided the tendon. From that time to the present, so far as I can learn, he has had but one attack and that a very mild one, and after sufficient physical abuse to account for a recurrence.

Another gentleman who suffered from attacks which Dr. Seguin thought were hysterical was much relieved by the operation.

A physician who had five or six years before been subject to frequent attacks simulating *petit mal*, and who now had developed blepharo-facial spasm with asthenopia, was operated upon, first by Dr. Agnew and afterward by myself, with some relief of his asthenopia, but none of his nervous disorder.

One man, who had been an inmate of an insane asylum, and who had sailed around Cape Horn for the rest it would afford his nervous system and his eyes, had an internus cut by me, but without relief.

But the majority of the cases operated upon and relieved were cases of headache, varying in degree, character and location. It would lengthen out this paper beyond all reasonable limits were I to go on commenting on the cases.

I have written them out with some care, and hope to have them printed in their completeness for reference for those who wish to know all about them. But I shall read here only brief notes of each one, unless the society wishes otherwise.

I may, before proceeding to read my cases, be allowed to formulate my present opinions in regard to tenotomy for heterophoria:

1. No person should have a tenotomy performed simply and solely because he is the subject of heterophoria; that is, unless some annoying symptom, local or general, is present that may be due to the want of harmony in the action of his ocular muscles. There must be a reason for the operation in addition to the existence of the condition to be corrected.

2. Very slight degree of heterophoria may and should be corrected where troublesome symptoms exits which may be due to the too great use of nervous force in co-ordinating the eyes.

3. It is well that all other means that afford any prospect of relief should be tried before resorting to a tenotomy, although no time should be lost by unnecessary dilatory treatment.

4. Tenotomies for the correction of heterophoria should always be performed under cocaine, so that the effect of the operation may be accurately measured and properly limited.

5. In judiciously selected cases, where the operation is properly performed, the average results will be quite as satisfactory as the results of most other surgical operations.

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## Purificatiom of the Drug Market.

The Editor of the *Amer. Lan.*, says:

Lately we have noticed that an eminent physician recommends the indorsing of the genuine by physicians like himself, as the proper way to drive spurious rivals from the market. We have noticed the names of eminent medical men attached to certain brands of soap, but we have not observed that spurious soaps were less common or profitable to their manufacturers. We have noticed the indorsements of certain brands of whisky, widely scattered among the profession and the laity, but it has not appeared that the inferior rival brands of whisky are in less demand. We have seen certain pills lauded to the skies by leaders in the

profession, but the rival pills sell just the same. In short, in so far as we have been able to study the problem, we are not convinced that the indorsement of any patented or proprietary remedy at all diminishes the demand for its rival.

The *Lancet* is right. The indorsement of special drugs or preparations by "leading men', in the profession, has been so overdone that it is all loss, and no gain to the physician who permits his name to be hawked around the country as an indorsement of anything that appertains to medicine. If a physician has any knowledge that would be of service to his fellow practitioners, the medical press affords the best, the safest. and the surest medium through which he may communicate his information.

### Congenital Deformity.

Dr. R. S. Sutton, of Philadelphia, reported to the Obstetrical Society of Philadelphia a case in which the patient, a girl, aged 20 years, had severe pains in lumbar region and head every month, but no menstrual flow had appeared. She was melancholy and was subject to frequent fits of vomiting. On examination no uterus could be felt by bi-manual manipulation. Dr. Sutton performed laparotomy, removing a nudimentary unilateral uterus with a large tube and full sized ovary, the latter having two distended Graafian follicles on its surface. The external genital organs were normal; vagina about one-half usual depth. The girl recovered her health and spirits.

Dr. Sutton reports that he has done 34 ovariotomies, with one death; and 27 abdominal sections for various purposes with one death. This is a most excellent record.

### Sequelæ of Whooping-Cough.

We are accustomed to looking for untoward after-effects of measles, scarlitina, diphtheria and some other acute contagious diseases, but whooping-cough is generally supposed to have no sequelæ. The *Brit. Med. Jour.*, says that a sufficient number of cases of hemiplegia have been recorded as occurring during the course of whooping-cough to prove that it was not a mere coincidence. Alexander has reported cases of blindness; one he attributed to edema of the quadrigemina, and the other to optic neuritis with consecutive atrophy, the result of meningitis.

### Cremation.

The *N. O. Med. and Surg. Journal* says of cremation:

As medical men we regard it as the cleanest, safest and altogether best method of disposing of the dead that has been suggested. But it will be long before cremation ceases to be anything but a luxury; a fad for the eccentric nabobs and wealthy enthusiasts; an epiphenomenon, as it were, of the great sanitary malady—slow decay. It will be taken up by boards of health and applied occasionally in pestilential disease, but the great mass of the people will always prefer their six feet of earth.

### Hypnotism and Suggestion.

Dr. B. H. Stephan gives the following summary of a papper, translated from the *Weekbl. v. H. Nederl. Tijdschr. Geneesk.:*

1. The experimental study of hypnotism deserves undivided medical interest and attention.

2. It is not improbable that in the suggestibility of hypnosis an important therapeutic agent will be found to have been discovered.

3. As there are dangers connected with hypnotism, and as no positive indications for its application have as yet been given, prudence bids us be very cautious in its use.

4. At present there cannot be any question as to the applicability of this method to any but dynamic disturbances; but, though the probability is not great, the possibility that even organic affections may not be entirely beyond its reach must by all means be kept in view. Facts, however, are still wanting which may be considered as having positively demonstrated its efficacy in such cases.—*Alienist and Neurologist.*

## Medical Volapuk.

Dr. Nicolas, a gentleman with evidently a strong faith in his cause, advocates, in the *Journal de Medicine de Paris*, the adoption of the international language for medical purposes. His sketch of Volapuk is flattering to that tongue. The article is abolished, and, better still, there are no genders. We agree with Dr. Nicolas that the presence of a declension is an obstacle to the diffusion of the language. As the cases are said to cover indefinite shades of expression, as in German, we doubt that such an arrangement would be tolerated outside Germany, German Switzerland, German Austria, and the "Pennsylvania Dutch" speaking population of the United States. The lexicology of Volapuk is especially important to medical writers who believe in the establishment of that language. The cutting down of consonants and vowels would play havoc with roots of Greco-Latin words, so abundant in medicine and so generally understood as to answer most of the objects of a universal language. Terminal syllables modify the sense of roots. After the roots have been learnt, however, the modifications must not only be learnt, but understood. Thus "eye" is *log* in Volapuk. *El* being a "professional termination," *logel* means "oculist." The adjectival termination *ik* makes *logik*, "from whence '*logamikel*,' optician." Why "from whence?" How can *el* added to a simple root be universally understood to imply a professional man, and the same *el*, added to the adjectival modification of the root, be safely made to convey the idea of a tradesman? A Volapuk paragraph on "Professional Etiquette," a fine familiar subject for the beginner, would be very interesting to study. Dr. Nicolas cannot see his way to forming from *log* words to express "ophthalmia," "cataract," or "blepharitis." We cannot help him. The building up of roots taking in tow a string of modifying terminals could alone settle the question on Volapuk principles, and this arrangement would lead to endless confusion in medical literature. The literal translation of any word would be no guarantee of its true sense, just as *Beispiel*, the German for "example," has been rendered "by-play" by ignorant, yet too-philological, Britons. The use of prepositions, or of verbs which more or less obviate their use, would lead to inextricable confusion whenever a Frenchman attempted to explain a clinical history or pathological report to an Englishman or German. For precision is absolutely imperative in such reports. To ask for a pint bottle of claret or the way to the post-office can often be done by means of nouns, infinitives and pantomimic action. Volapuk might prove of real use, under similar circumstances, in Russia, Portugal or Hungary. But for medical literature, and for learned society oratory, the new language would be, we believe, impracticable. The bulk of the profession in the British Empire and the States read few or no foreign works. On the other hand, there are plenty of doctors who make capital translations of French and German medical writings. Far easier and infinitely more profitable would it be for any medical man to learn the tongues of Voltaire and Goethe than to attempt to get up an artificial dialect, devoid of precedents, prestige or poetry, and to learn how to express "eye," "oculist," "visual," "optician," and "ophthalmia," by a root and terminals in such a manner that a foreign Volapuk scholar may, by chance, understand him.—*Brit. Med. Journal.*

## A Question of Ethics.

The American Association of Genito-Urinary Surgeons says that it will not consider the application for membership from one who on his card states that he is a Genito-Urinary Surgeon. He can do this in connection with his papers in medical journals, and with the reprints of the same, in the announcements of the dispensaries, etc., with which he is connected. By these means he may advertise his specialty among the people and the profession, but he must not do the same thing with his cards. We suppose that a line must be drawn somewhere, and it is thought best

to draw it at "cards." Really we do not see the difference or the objection except on the ground of custom, and lack of good taste, or practical utility. We can understand why the promiscuous circulation of the cards of a medical man on which was engraved the fact that he devoted exclusive attention to "The Genito-Urinary Organs" might be an occasion of embarrassment at times. We also do not think it good taste (to speak mildly) to attach any other term to either a doctor's sign or his card, etc., than his simple name, address, and office hours. Nevertheless from considerations such as we have mentioned, we find it difficult to understand wherein this differs from other practices already accepted as proper.—*American Lancet.*

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### Application of Steam to the Throat.

The *Med. Times* says "Apropos of the treatment of diphtheria by eucalyptol inhalations, we note that a Scotch physician advocates strongly the use of steam. The child, he says, should live in an atmosphere of steam; with or without the addition of sulphurous acid generated by burning sulphur in the room. He states that since adopting this method he has not lost a case."

In acute tonsillitis, especially the follicular variety very few remedies at our command give such prompt and decided relief as the application of steam directly to the inflamed surfaces. By using a small gas stove or oil stove on which to generate the steam, it can be carried through three feet of tubing directly into the patient's mouth, as hot as he can bear it. It allays irritation, and relieves spasms of the laryngeal muscles.

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### High Altitude vs. Albuminuria.

Sir Andrew Clark says that from the study of cases of phthisis which he has sent to Alpine altitudes to winter he has learned two important facts. (1.) Patients who go to these regions suffering from albumrinur seldom do well.(2.)Patients who whilst dwelling there become albuminuric almost always do ill. Hence he says that no phthsical persons having albuminous urine should be sent to any Alpine height; and every patient beginning to have albuminous urine when there should be immediately sent away.

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### Dislocation of the Lens of the Eye.

Among the many serious results of accidents to the eye (short of immediate total destruction of vision) few are more disastrous that a rupture of the capsule with displacement of the lens which it contains. And yet, a score of years ago, couching or dislocation of opaque lenses was a recognized operation ranking scarcely less in importance to the extraction of cataract. A number of remedies used by our predecessors, on account of their abuse, have unjustly fallen into disuse and are coming again into popular favor but the operation of couching has been made obselete, never to be revived, by the substitution of our present methods of removing the lens from the eye.

It is now known to be a most unfortunate accident for the lens to escape into the vitreous chamber during an attempt to remove it from the eye. Fortunately this rarely occurs.

When a lens is movable in the vitreous chamber it acts as a foreign body and sooner or later it will destroy the eye. It is far more difficult to remove than a cataract in its normal position. A method, that has been successfully practiced a number of times, is to place the patient in a prone position, face downward, so that the lens may gravitate into the anterior chamber, the eye being examined from time to time without changing the position of the patient and when the lens can be seen immediately behind the cornea, contract the iris behind the lens by the instillation of a solution of eserine; when this is done the patient can be removed to the operating table and the lens extracted with but little risk of the loss of vitreous. This, however, can be accomplished only in a small proportion of cases.

The late Dr. Agnew, of New York, devised

a "bident", a small instrument with two spear-shaped prongs, that can be introduced through the sclerotic and other coats of the ball into the vitreous chamber, and by using it as a lever the lens be pressed forward and held in the anterior chamber till it can be removed through a section in the cornea. This method has given most excellent results.

In the *Med. News*, Dr. H. F. Hansell, of Philadelphia, describes an instrument which he has devised. In shape it is like a three-pronged ice-hook. He has used it in one case with admirable result. He describes the operation as follows:

1. Linear or modified linear cut, as in Graefe's extraction of cataract.
2. Iridectomy (this should be done if the lens is normal or nearly normal in size).
3. Introduction of the extractor immediately behind the lens to a point below the center of the posterior surface.
4. Extraction.

This instrument has the following advantages:

1. It will remove a lens equally well with or without its capsule.
2. Its insertion necessitates no displacement or other disturbance of the vitreous in removal of a lens dislocated behind the iris.
3. Both shank and fork being malleable, the instrument is available in all cases where the lens can be seen.

This instrument is made by E. A. Yarnell, 1020 Walnut Street, Philadelphia.

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## A Generous (?) Medical Faculty.

The *Medical Age* says: "We have it on the authority of the organ of the Medical Department of the University of Michigan, that out of sixty cases of senile cataract operated upon in one year at the clinic of that institution, gratis, ninety per cent were abundantly able to have paid a fee commensurate with the importance of the operation. In one week, the poorest of the four patients thus treated was worth fifteen thousand dollars, and the richest could draw a certified check for three hundred thousand dollars. And yet the physicians of this commonwealth are called upon to pay taxes for the support of this institution."

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There are fourteen vacancies in the grade of Assistant Surgeon in the Medical Corps of the U. S. Navy. The Examining Board is now in session in Philadelphia. After the last day of March applications must be made at the Naval Hospital, Brooklyn.

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Salol is recommended for cystitis, given in five grain doses every four hours.

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## PEDIATRIC POINTS AND PICKINGS.

BY I. N. LOVE, M. D.

In dysenteric disturbance of infants Jacobi recommends as an antiseptic, naphthalin. He has frequently administered it to good advantage in every description of intestinal ulceration, acute or chronic.

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There is nothing more clearly established in my judgment in the therapeutics of recent times than the great advantage of the bichloride of mercury as a local and constitutional treatment of diphtheria. I placed myself upon record to this effect over two years ago. I am more than ever convinced of the correctness of this position now.

The latest evidence favoring this view is from Dr. Francis Huber (*Arch. of Ped.*, Jan., 1889), Chief of Clinic of Diseases of Children, College of Physicians and Surgeons, New York, in a paper upon "Intubation." He says:

"I do not favor early operation, for it has been my good fortune to see a comparatively large number recover under the faithful employment of the bichloride of mercury and steam. It is my firm belief, and in this I am strengthened by the experience of others, were the bichloride administered sufficiently early, at the inception of the trouble (the precaution being observed that it be properly

diluted), a larger proportion would recover, with or without operation.

"Simple truths in practical medicine do more than simply bear repetition: they require it. * * * After the rational and careful administration of the hydrargyrum bichloride, local mercurial symptoms about gums, mouth, pharynx, and intestines are exceptionally rare in infancy and childhood" (Jacobi, *Med. Jour.*, June 30, 1888). Many cases could be cited in support of these views, but I must content myself here with the above positive assertions."

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The traditional plan of wrapping the cord of the new born child and applying a tight bandage, which interferes with respiration and the general comfort of the child, should be abandoned, but it requires considerable nerve on the part of the attending physician to run the gauntlet of adverse criticism likely to follow his decision at the hands of the Sarah Gamps of the sick room. The plan of Dr. W. T. Richmond, of Monor, Texas, is a good one. The doctor says (*Daniels' Texas Med. Jour.*):

"When the child is ready for its dress, I cut the cord again; this time about an inch and a half from the abdomen, envelop the stump in a piece of cloth, and by pressing and stripping remove all the blood, and a part of the jelly contained in it, after which I place a ligature near its extremity and have the child dressed without a bandage. An examination on the following day will show the cord shrunken and drying; on the next day it has much the appearance of a dry scab about the size of a twenty-five cent piece. It will often fall off on the third day, leaving the umbilicus resembling a scar, from which the scab has recently fallen.

"I know of no advantage the bandage is to the child. It soon becomes soiled and disarranged and is a source of annoyance. It interferes with respiration and increases the danger of hernia in paroxysms of coughing and sneezing, prevents frequent easy examinations of the stump, and renders treatment difficult, if any should be required."

A year has now passed since the writer presented a clinical report to the St. Louis Medical Society upon the local use of peroxide of hydrogen in diphtheria. He is strengthened in his conviction that the remedy is a most valuable one. In some cases it will do to use the agent in the form of a spray by means of the magic atomizer (black rubber tubing preferable) but where the conditions will permit it is best to apply it freely by means of swabbing the surfaces with absorbent cotton on probang.

The objection to the probang may be made that a child does not submit to its use any more gracefully than to that of the spray; but it takes but a moment to make the application, even if force be necessary to accomplish that object, and the effects are more lasting than the spray, necessitating its use much less frequently.

As a germicide the peroxide of hydrogen is second only to the bichloride of mercury and its great advantage is that it is a rapid oxidizer and dissolver of organized membranes. Where the child is old enough to help the attendant the application by means of a block rubber piston syringe of good volume is to be preferred.

The application of pepsin to digest away the membrane in diphtheria and membranous croup is not new, and is more or less commended and resorted to by physicians in the treatment of these diseases.

Naturally, however, its utility depends entirely upon its digestive activity, and on account of the many preparations of pepsin of feeble or no digestive power heretofore at the disposal of physicians the results obtained have been in some cases discouraging.

As to the value of pepsin, however, in these affections when of proper purity and strength, there can be no question. We believe that the recent improvements in pepsin, securing greater purity, strength and permanence (we allude to the pepsin purum in lamellis of Parke, Davis & Co.,) will lead to its extensive use in diphtheria and membranous croup, maladies now attended with such grave results even when combatted by the most expert medical care.

The *Medical News* of Philadelphia says:

"We learn from private sources that Prof. Waxham, of Chicago, has had ten recoveries in his last series of fifteen cases of intubation in diphtheria; twenty-two in the last series of fifty, and fifty-three in his entire series of one hundred and seventy-three—say thirty per cent in all, with an unusually good showing, sixty-six per cent in the last fifteen.

"Finding that patients swallow well in the inclined position, with the ordinary intubation tube, Prof. Waxham has practically discarded the use of the artificial epiglottis with which his name has been favorably associated."

All of which recalls the thought which has frequently been aroused in this connection. Is it not possible that the operator in the City of Chicago who has had a larger number of cases than the originator (or rather reviver) of the procedure of intubation, Dr. O'Dwyer, in a city (New York) three or four times as large as Chicago, may have needlessly applied the tube in some of his cases.

Waxham, at the International Congress, in Washington, and at the last meeting of the American Medical Association, in Cincinnati, impressed more than one as being an enthusiast on the subject of intubation much more extravagantly than the calm and cautious O'Dwyer.

Intubation in the City of St. Louis is not in high favor. Neither Drs. Mudd, Carson, Gregory, Tuholske nor Prewitt are enthusiastic in its praises.

Were my own child the sufferer suffocation would have to be imminent before I would favor or consent to surgical interference and then with the light that I now have from observation I would prefer tracheotomy to intubation.

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As emphasizing the argument against the stereotyped hot water and mustard bath for the child in the struggling spasm, no matter what the cause of the same I quote the following from the local page of the *St. Louis Daily Republic*, (Jan. 28, '89).

"A peculiarly sad case yesterday engaged the attention of Coroner Frank. He was notified in the morning of the death of Florence R. Gullick, a little girl between 3 and 4 years of age, at 3606 North Eleventh street. The child died Saturday of scalds which the testimony showed were received in a rather strange manner. The child was pretty and interesting and a pet in the neighborhood where she lived. Her father died some time ago, and as her mother was an actress and absent from the city most of the time, she was placed in charge of her aunt, Mrs. Blanche Cooper. It appears that the child was subject to spasms and that her mother and aunt were accustomed to giving her hot baths as soon as she was seized with these fits. On Thursday last she had a spasm and her aunt proceeded to give her a warm bath without any delay. She hastily prepared the water and placed the child in the bath, but soon discovered that it was entirely too hot.

The child was badly scalded about the legs and body, and although everything was done to save her life, she lived only 48 hours from the time she was placed in the tub.

Mrs. Cooper testified that, although she proceeded hastily, still she took the precaution to put her hand in the water to see that it was properly tempered before lifting the child into the tub, and did not think at the time that it was any too warm. She seemed prostrated over the unfortunate occurrence. A verdict of accidental scalding was rendered."

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## SELECTIONS.

### OUR PRESENT KNOWLEDGE CONCERNING THE ETIOLOGY OF TYPHOID FEVER.

BY AUGUSTUS CAILLE, M.D.

GENTLEMEN: We have assembled here this evening for the purpose of discussing the etiology and treatment of a disease, which, owing to its general prevalence and grave importance, should be thoroughly understood by the practitioner in medicine

Before I endeavor to present a clear picture of our recent views and knowledge concerning typhoid fever, I would intimate that medical nomenclature has not kept pace with our better understanding as to the causation of the disease, and in consequence, we occasionally miss in the written and oral communications of medical men that sharp distinction existing between a specific typhoid fever and a typhoid symptom.

We all know that the expression "typhoid" indicates drowsiness and cloudiness of the sensorium, and in earlier days was applied to almost all febrile disorders having such typhoid symptoms, so that at the beginning of the present century we find the terms typhoid fever, typhus fever, relapsing and remittent fever, used almost synonymously on account of their common symptom. About the year 1830 Jenner in England and Griesinger in Germany pronounced typhus and typhoid fever as two distinct disorders, the former alone being directly contagious.

This opinion, expressed so many years ago, holds good at the present time, but we know in addition that the typhoid stage or symptom which we frequently observe in acute febrile disorders—as in pneumonia, diphtheria, scarlatina, puerperal fever, or peritonitis—is probably due to persistent high temperature which accompanies such diseases, and has no connection with typhus or typhoid fever.

If we bear this in mind there will be no necessity for coining such misleading terms as typho-malarial fever, etc.

Definition of Typhoid Fever and its Specific Poison.—For the purpose of brevity we may omit the usual historical retrospect and take up the study of typhoid fever from the time of its recognition as a general infectious disease, defining it as a specific endemic disorder not directly contagious, the poison of which is present in the excrement of the person afflicted. Anatomically, we find swelling and necrosis of certain glandular structures within the intestines. Clinically, we notice prolonged fever, continuous in the acme and remittent in the beginning and the end, with a tendency toward heart failure.

This is not an exact definition, but it will suffice for the purpose of our discussion. The question now presents itself: Are the above-mentioned symptoms occasioned by a purely chemical poison, or is the exciting cause of the infection of parasitic origin?

Is it a chemical poison? No poison, organic or inorganic, fixed or volatile, can produce the above-mentioned (complex) symptoms, or occasions or is accompanied by a more or less typical fever curve of three to five weeks' duration. No mineral poison, none of the numerous poisonous vegetable alkaloids, neither cyanides nor any other poisonous compound obtained by synthesis, can produce symptoms similar to those of typhoid fever. All the well-known poisons most rapidly destroy life when taken in sufficient quantity, and occasion little or no disturbance if taken in diminutive doses. A propagation of a purely chemical poison within the body, accompanied by characteristic symptoms extending over a long period of time, is an impossibility. As long as the normal functions of the tissues are not materially interrupted, elimination follows; otherwise death speedily results.

Even the isolated ptomaines do not, to my knowledge, provoke prolonged and typical disease; they react upon the animal economy precisely in the manner of organic poisons in general. The same is true of the toxic gases; neither marsh-gas nor sewer-gas produces typhoid fever.

We might conceive of a volatile cause of typhoid fever by assuming the body to be exposed to its influence during the whole period of sickness. But such an assumption is rejected at once if we reflect that a patient after infection fails to escape the disease by withdrawing from the place of infection. Even were you to hasten him from New York to the North Pole, the disease would surely run its course. I know of a woman who was taken sick with typhoid fever in a small town near Wiesbaden, Germany, a few days prior to her departure for New York. She was sick on board the steamer, and remained sick for three weeks after the completion

of her journey; and I suppose almost every physician is familiar with cases of that nature.

Accordingly, we may say that the poison of typhoid fever is not a chemical poison, for, a priori, its reproductive ability both within the system and external to the body, its intimate connection with putrefaction, the typical course of the disease—all these are indicative of its parasitic origin. The modus operandi may be expressed as follows: A specific parasite has the power of inducing putrefaction in a tissue wherein it is lodged and thereby produces a ptomaine. This organic poison is absorbed, produces symptoms of disease, and is finally eliminated; the system is therefore under the influence of a poison as long as its production within the body lasts. After several weeks the activity of the specific parasite reaches its limit and the production of the ptomaine ceases; thus we have an illustration of acute infectious disease. That the vitality of a parasitic organism reaches a natural limitation is a palpable conception, and it has been suggested that many of the micro-organisms may limit their own activity by the high body temperature which they induce. This may be quite true in many instances, but there are exceptions, for we know that bacillus tuberculosis thrives admirably notwithstanding the high and continuous fever which many phthisical subjects have.

What other proofs have we that the poison of typhoid fever is a *contagium vivum?*

The discovery of the specific bacillus is credited to Eberth and Koch. In 1880 Eberth described a species of bacilli present in recent cases of typhoid fever in non-ulcerated, enlarged intestinal follicles—Peyer's patches—spleen, liver, kidneys, lungs, intestinal lymphatics, and the central nervous system. The cultivation gave the best results in potato medium, and, according to Gaffky ("Mittheilungen aus dem Gesundheitsamt," Band ii), the potato cultivation of this bacillus is so characteristic that it may readily be distinguished from others by the naked eye, and is looked upon as a means of diagnosis. E. Frankel and Simmonds sought to prove the specific pathological nature of the "typhoid" bacillus by animal inoculation. The later investigations of Beumer, Peiper and Serotinin ("Zeitschrift f. Hygiene," Bd. i-iii) show that the evidence of inoculation is not absolutely conclusive, but still so satisfactory that these authors recommend prophylactic vaccination. The bacillus described by Eberth has occasionally been found in contaminated drinking water and in milk; however, it is thought that such milk had been watered.

V. C. Vaughan, E. D., and F. G. Novy, M. S. (*Med. News*, Jan. 28, 1888), profess to have been the first to discover the bacillus of Eberth in this country, in an article entitled "Experimental Studies on the Causation of Typhoid Fever." A sick immigrant introduced the disease into Iron Mountain, Michigan. From August to December statistics show three hundred and fifty cases with 10 per cent mortality. The presence of the bacillus in the drinking-water was demonstrated by the potato cultivation, and it was also found in the tissues of some of the patients.

We may, therefore, state that the evidence as to the parasitic origin of typhoid fever is conclusive.

Next in importance to the recognition of a poison, its source is of practical value, for if we know from what direction danger threatens we have a rational defense in prophylaxis.

If we at any time admit the existence of a specific parasite we must also admit its continual propagation, and it is not at all probable that the typhoid fever poison originates spontaneously in putrescible matter, but that it finds therein a suitable vehicle for its growth and multiplication. In other words, drinking-water contaminated by drainage from a cess-pool will not cause typhoid fever unless the specific germ is contained therein.

Experience has taught us that the disease under consideration is not directly contagious, and we know, on the other hand, that the specific poison is contained in the dejections of the sick; therefore we may state without fear of contradiction that the carriers

of the contagion are chiefly air, water, food, clothing, and, as I personally believe, the clinical thermometer in hospital wards.

It is hardly necessary to cite instances of infection by means of contaminated air (sewer-gas), the latter being simply a vehicle for the typhoid-fever germ.

Murchison has reported how a number of children were taken sick from breathing the air of a school room contaminated by means of an open cess-pool. Nearly all the children were attacked, and those sitting nearest the closet were taken sick first. A positive proof of infection by means of sewer-gas has lately been reported. Some time ago several convicts were stricken with typhoid fever in one of the wards of the Michigan State Prison at Jackson. The Board of Health was called upon to investigate the matter under the supervision of Professor Vaughan, director of the Michigan Laboratory of Hygiene. The milk and the water supply were found pure. A defective sewer was found which had not been in use, but which communicated with a newly constructed sewer under the hospital ward. The air of the old soil-pipe was analyzed and the typhoid fever germ found and distinguished by the potato cultivation (*Sanitary News*, Feb. 8, 1888).

When air or sewer-gas is the medium of infection, absorption of the poison need not necessarily take place through the lungs. In all likelihood the germs are caught in the secretions from the naso-pharyngeal space and are swallowed.

Infection by means of drinking water is a well-established fact and need not be dwelt upon. Occasional immunity is noticeable, but sooner or later finds its explanation. Dr. Underwood, customs medical officer at Kinkiang, China, noticed marked immunity from the disease among the natives in his district, notwithstanding the frequency of typhoid fever among the Europeans located there. He explains this by the fact that the Chinese drink no water while tea is at hand.

According to Billings and Prudden, impure ice may be the means of infection (the *Med. Rec.*, April 2, 1887). Dr. Prudden states in his article that there are a considerable number of cases of typhoid fever in which the most painstaking examination of the sanitary surroundings of the victims and their personal contacts fails entirely to account for the occurrence of the disease. Some of these isolated cases of typhoid fever, whose origin is otherwise unaccountable, may well be due to the ingestion of bacilli from sewage-contaminated ice.

Contagion by Clothing.—The Berlin correspondent of the *Med. Press*, March 28, 1888, reports a persistent epidemic that played havoc in a garrison artillery barracks from 1873 to 1885. A case of typhoid fever was imported in 1873, and from that date to the close of the epidemic 146 cases occurred. Every possible source of disease was looked into and everything kept in the best possible condition, but the disease baffled all inquiry. The closing of the barracks finally came up for consideration, but previously suspicion fell upon the bed-linen and clothing, because the vast majority of cases were furnished by the men of one battery alone. On close investigation, it was found that the linings of the trousers were, almsst without exception, soiled by dry fecal matter. The clothing was submitted to renewed careful treatment by means of chlorine and dry heat, from which time (Nov. 18, 1885) no more cases of disease occurred.

Infection by means of the clinical thermometer in hospital wards and through nurses who attend a typhoid fever patient at one moment and presently prepare ice-water without previous disinfection of their hands is a sure thing, in my opinion, and the possibility of its occurrence should be borne in mind and avoided by all means.

Local and Individual Disposition.—We have all read, or attempted to read and digest, the somewhat lengthy treatises on ground-water, the height of which is calculated according to the depth of well water. As a matter of fact, ground-water stands in a certain relation to health, and Pettenkofer has found that typhoid fever is prevalent with low ground-water. The investigations of B.

Latham, C. E. (*Popular Science Monthly*, December, 1887), extend over a period of eleven years, and show for England the prevalence of typhoid fever after low ground-water.

On general principles, I should be inclined to hold that contaminated well water would contain proportionately more germs if the well were nearly dry than if it were quite full.

Finally, it should be borne in mind that high temperature favors the development of typhoid fever.

Individual Disposition.—Concerning individual disposition little is known. Persons between fifteen and thirty years of age are most liable to be taken sick; the disease attacks more men than women, more robust than weekly individuals. It is the exception that one person is attacked more than once. I can, however, recall several such cases. Occasionally entire families are stricken with typhoid fever. In 1878, of a family of eight persons living at 113 Eldridge Street, all were attacked within four months, and all fortunately recovered.

The following cases are also of interest:

In 1878 I was called to attend a cigar manufacturer, living with his second wife and six sons in East Fourth Street, New York. About a year previous his first wife had died of typhoid fever in the same house. One of the sons was sick with typhoid fever and got well after severe illness. Six months later a second son became sick and died. Subsequently the family removed to a flat in St. Mark's Place, and in October, 1887, the whole family except the step-mother contracted typhoid fever, and all recovered; thus one of the sons had the disease twice. A sister of the head of this family, residing at Sing Sing, reports that within a few years she and two children have been sick with typhoid fever. Under such circumstances one may well speak of individual disposition, whatever that may be.

The diagnostic value of the "typhoid" bacillus deserves a passing notice.

Microscopic examination is insufficient for the purpose of diagnosis, the potato cultivation being necessary under all circumstances. Typhoid fever stools should not be used for obtaining cultivations, as they contain many varieties of bacilli. The examination of peripheral blood usually yields a negative result. Lucatello has removed blood from the spleen with a Pravaz syringe and obtained cultivations in ten instances out of thirteen. The blood of "roseola" patches gives a positive result in 50 per cent of cases. A diagnostic bacteriological examination consumes several days, and is, therefore, of little value as a preliminary procedure, because the clinical diagnosis is usually made in about the same time.

Such an examination may be of importance, however, in distinguishing between typhus fever, typhoid fever, acute miliary tuberculosis, and other forms of disease accompanied by a constantly high temperature. The precise relation of typhoid fever to those forms of disease which are similar, but of a very mild type has not as yet been cleared up.

In conclusion, I would add a few words on the prophylaxis of typhoid fever.

Dr. Vilchur, of St. Petersburg (*Lancet*, January 14, 1888), has found by experiment that boiling water kills the "typhoid" bacillus, and recommends that the stools of patients be treated with boiling water. Such a method is impossible in private practice for obvious reasons; nevertheless, the physician should insist that the stools be treated to some cheap disinfectant, also the wash.

No sleeping apartment should have a wash-basin which communicates with drain-pipes and sewers. The occasional use of germicide solutions in waste pipes is no safeguard against infection; it is far more advisable to place a large piece of crude potash into the sink every week or two; the fatty and sticky coating in the interior of waste pipes is thus dissolved and loosened up and is carried away by a flush of water. Such a procedure would work good results, especially in tenement houses.

According to our present experience, infection through drinking water can be avoided by boiling water before use.

In the tenement districts of New York city typhoid fever would have fewer victims if the physician who attends a case would make it his business to ascertain that printed directions distributed by the Boord of Health to prevent the spreading of contagious disease were actually read, understood, and obeyed.

Many people are willing to carry out sanitary instructions if they are only shown how, others neglect to do because they do not understand quite written instructions, and no one has a better opportunity to make such matters clear than a conscientious attending physician.

Clinical thermometers after use should be cleansed with a pledget of cotton and bichloride of mercury solution.

To what extent the physician may be able to counteract the intensity of the poison, limit the duration of the disease, and keep the body functions as near as possible to the normal standard during a period of disturbance, is a matter of therapeutics.

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## OBSERVATIONS ON SOME ADDITIONAL CASES ILLUSTRATING HEPATIC SURGERY.

BY JOHN KNOWSLEY THORNTON, M B., C.M.,
Surgeon to the Samaritan Free Hospital.

Read before the Medical Society of London.

In November, 1887, I had the honor to bring before the Medical Society two cases of cholecystotomy, illustrating the results of contraction of the cystic duct behind the impacted stone.

I now propose to record briefly the cases of hepatic surgery which have been dealt with since my last communication to the Society. I will take them in chronoligical order, and make some remarks upon the special features of interest in each case at the end of my paper.

Upon the day upon which my previous communication was made to the Society, I operated for my friend, Dr. H. C. Martin, up on a lady, aged 52, who had for some time suffered from symptoms of gall-stone. After the more marked attacks of colic ceased she had chills, severe abdominal pain, and then swelling of abdominal parietes over the region of the gall-bladder, and when I was called in there could be no doubt that there was a large collection of fluid, and her general condition pointed to suppuration having occurred. I cutcautiously down over the gall bladder, and reached the pus without opening the peritoneal cavity, finding a very large abscess cavity, with a small tunnel like opening leading into the gall-bladder above, and a similar larger opening leading into an inner cavity deeply placed among adherent coils of intestine. This last cavity it was impossible to thoroughly explore, and I have little doubt that it contained the stone or stones. I could not detect any stone with the probe, either in this cavity or in the gall-bladder, and I therefore contented myself with passing a long rubber tube into the deep cavity, and another into the external one. Very free bile-stained discharge poured away for some weeks, but she made an excellent recovery; and I have recently seen her in good health, and free from all hepatic trouble.

On February 6th, 1888, I operated upon a very similar case. The patient was a very fat cook, aged 60, and she was sent to me at the Samaritan Hospital as a case of ovarian tumor.

Her illness began in December, 1887, with pains in the back and loins, radiating through the navel. About Christmas the pain became more severe, and localized itself just to the right of the navel; the urine then became very dark and thick, "as if yolks of eggs had been beaten up in it," and she vomited everything. She had heavy sweats, and was very thirsty; no jaundice.

On admission I found a large tender swelling in the region of the gall bladder, and decided to explore it. The case was an exact repetition of the previous one, except that there were several channels leading into deep pockets, besides the opening into the gall-bladder. I did not find a stone. The treat-

ment was, as in the other case, free aseptic drainage, and with an equally satisfactory result.

In the same month a widow, aged 62, was transferred to my care from the out-patient department by my colleague, Mr. Malcolm. She was anemic, emaciated and jaundiced. She was first attacked with sudden and severe pain was twelve months before admission; the pain in the right side of the abdomen, and passed off at the end of a few hours as suddenly as it came on. She had had frequent recurrence of the attacks with retching, vomiting and shivering. During each attack the urine became yellow and thick, and she was jaundiced. The stools have been very pale for some months, but are occasionally of a better color. She does not know that she has ever passed a stone.

On examination, I found a hard, irregular, and tender swelling rather more to the right than the usual situation of the gall-bladder. This was found to vary in size from time to time.

The diagnosis was: Gall stone impacted in the common duct, possibly also a stone still in the cystic duct as the bladder distends from time to time.

Assisted by Mr. Malcolm, I operated on March 3rd, making the usual three-inch vertical incision over the gall-bladder. Found a small gall-bladder, and removed with the aspirator some bile-stained mucus. On opening the gall-bladder, I found the cystic duct funnel-shaped, and so hard and contracted at its lower end, that I with difficulty passed a fine probe, and struck a stone just opposite the opening into the common duct. On examining the common duct from the peritoneum, I found the two stones which I have here firmly wedged in it; the small one was low down, and the larger one high up near the opening from the cystic duct; its position doubtless accounted for the occasional distention of the gall-bladder. I endeavored to manipulate the stones down the duct, or to break them with gentle finger pressure, but only very slightly moved the lower one; then I attempted to dilate the cystic duct and failed. I unaccountably forgot my own suggestion of needling the stones, and no one present suggested it. Two hours were wasted, the gall-bladder much bruised and torn, and the lining membrane of the cystic duct also bruised and abraded, and the patient was showing signs of exhaustion. I therefore determined to remove the gall-bladder entirely, and close the cystic duct by ligature close to its entry into the common duct. I was led to this decision by thinking that the manipulation of the stones might have loosened them, and that the whole of the bile being confined to the direct channel, would be more likely to push them on, and also by the fear that gall-bladder and cystic duct were so damaged, that they might not recover if I attempted to suture them. I made two parallel incisions through the peritoneum covering the base of the gall-bladder, and rapidly enucleated it without any difficulty or serious hemorrhage. I then united the two peritoneal flaps by a continuous suture of fine silk, and used the two ends of this suture to tie the cystic duct close to its entrance into the common duct. This is the first cholecystectomy I have performed, and the operation is so much easier and more bloodless than I should have expected, that I shall certainly repeat it in any case in which there is difficulty in suturing the gall bladder, or fear of its vitality having been damaged. I placed a glass tube in the peritoneal pouch below the liver. This was removed on the third day, and the patient made a good recovery. The wound was soundly healed on the 23rd (that is, in three weeks). She passed some small fragments of stone with the first action of the bowels on the seventh day, and again at intervals after, but the urine did not clear of bile till the third action of the twelfth day, and there was no bile in the stools till after this action.

On the twentieth day she had an attack of pain and sickness, with rise of temperature and pulse, and tenderness over the liver and abdomen in the situation of the gall-bladder; the general disturbance passed off in twenty-four hours, but the urine became scanty and high-colored, and tenderness over the ileo-

cecal valve followed, and there was distension of the intestines and bilious vomiting. From the commencement of the attack I kept her well under the influence of my favorite atropine and morphine mixture.

On the twenty-fifth day there was a large bilious action, but no stones. The action was followed by a rigor; temperature 105.6°, pulse 108; vomiting and severe pain in the cecal region. The next day she was quite well in every respect, and I ventured to pronounce that this serious disturbance marked the passage of the stones through the ileo-cecal valve. After this the bowels acted daily naturally, but the first stone was not passed till the 29th day, and the second on the following day. The patient is now in excellent health.

On March 27th, the day on which the ileo-cecal disturbance occurred in the above case, I operated upon another case of Mr. Malcolm's. The patient was a widow, aged 51, with a bright florid color, and well-nourished. She had passed a gall-stone eleven years before admission, and another in the following year. Two years ago she began to have a recurrence of pain, with jaundice after the attacks, and now she is never quite free from pain. She has herself felt a movable lump below the liver since last summer, and is getting thinner. On examination, the distended gall-bladder was easily defined; it was tense, smooth and elastic, and measured 3½ inches by 2¼.

I operated on March 27th; removed 8 ounces of nearly clear fluid from the gall-bladder by aspiration; then incised the bladder and easily removed this large stone, but found another so firmly impacted in the cystic duct that I had to needle it into these fragments. I returned the gall-bladder into the abdominal incision, and she made a slow recovery, discharge of bile and mucus continuing to be very free till she left the hospital, on May 3rd, thirty-six days after operation. The fistula has now closed, and she is quite well.

In April, 1888, I saw, with my colleague, Dr. Amand Routh, a single woman, aged 21 years, somewhat anemic, but well nourished and fairly healthy in appearance. When 8 or 9 years old she had been aspirated by Dr. Wynn Williams for hydatid cyst of the liver, 9 ounces of fluid being removed, and he subsequently aspirated again on two separate occasions.

In January, 1886, a few drams of turpid serum was drawn off, and this was followed by swelling up of the tumor and fever; this gradually subsided and the tumor seemed to shrink up entirely. It had now obviously filled again, causing a very considerable swelling in the left lobe of the liver, and giving her much pain. At this time she also had an indefinite swelling in the left iliac fossa, which was also to be felt per vaginam in the pelvis.

I made a small incision over the most prominent part of the hepatic swelling on April 18, and had some trouble in getting through an extensively adherent and vascular omentum. Having at last cleared a space on the liver surface and packed it round with carbolized sponges, I plunged in a large trocar, which was immediately blocked with daughter cysts. I then withdrew the trocar, enlarged the opening, and cleared a very large cavity of an immense mass of cysts of all sizes by free syringing with iodine and water, passing the tube deeply so that the lotion got behind and forced out the cysts. When the sac was empty I explored the abdomen, and found just to the right of the normal gall-bladder a mass which I at first believed to be a large gall stone, but it proved to be a great mass of calcareous matter projecting from the right lobe of the liver, and doubtless the remains of the cyst which shrank up after inflaming. Passing my hand into the lower abdomen I found in the left side a large cystic mass so matted up with intestines, uterus, ovary, etc., that I decided to leave it alone for future treatment if it enlarged.

The opening into the liver was sutured into the upper part of the abdominal incision, and two large and long rubber tubes were passed deeplyinto the sac.The after dischargewas very great, requiring large masses of dry dressing outside the deep dressing to be frequently changed. There was some fever on the first

and second days, but it rapidly subsided, and she made a smooth recovery, leaving the hospital with a small piece of tube still in a sinus fifty-one days after operation. Before leaving she informed me that she was going to be married, and I examined her as to the condition of the pelvic swelling, with a view to cautioning her as to its presence and possible future complications. To my astonishment it had entirely vanished, both from the iliac fossa and pelvis, the most careful vaginal exploration failing to detect anything abnormal. Clearly it had been in communication with the liver cyst, and had drained itself through it. I have already published a similar case in which a large hydatid cyst in the thigh (Scarpa's triangle) communicated with a large hydatid of the liver, and was drained through the abdominal sac.

On May 9, I saw, in consultation with Mr. Cripps Lawrence, a single lady, aged 35 years, who had had an attack of colic at Christmas, followed by peritonitis and periphepatitis in February. Traveling from Torquay on May, 7, she was in much pain, and Mr. Lawrence saw her on the 8th. I found jaundice, foul tongue and breath, urine loaded with bile, white stools, and a very hard, somewhat mobile, and not very tender swelling, rather more to the right side of the abdomen than the normal situation of the gall bladder. There was, as there often is in these cases, a peninsular of clear percussion invading the neck of the swelling and due to adherent intestine. My diagnosis was gall-bladder full of stones, inflammatory matting of the parts round it, impaction of the stone in the opening from the cystic into the common duct.

It was decided that surgery would probably be necessary, but that it would be desirable to improve her general condition by rest in bed, attention to diet, and aperients. I saw her occasionly with Mr. Lawrence, and noted that, though her general condition markedly improved, the swelling got rather larger and more tender.

On May 30, Drs. Broadbent and Cumberbach joined us in consultation. They were neither of them prepared to give my diagnosis an unqualified support, the history, the situation, and physical signs of the swelling not appearing to them to conclusively support my view; they, however, agreed with me that it was a possible diagnosis, and that exploratory incision was the only proper treatment.

I operated on June 4, assisted by Mr. Lawrence and Mr. Malcolm, Mr. Murry giving chloroform. After cutting through the skin, I came into dense,hard,tissue-like cartilage, and had a very prolonged and careful dissection to make through it, as I feared that at any moment I might wound adherent intestine. At last I got into the peritoneal cavity above this dense tissue, and could feel the gall-bladder full of stones. It was drawn down and over to the right by adhesions, and was covered above by the stomach, also adherent and drawn over to the right side. The edge of the right lobe of the liver was firmly adherent to the parietes. The clear percussion was due to the position of the stomach and some adherent small intestine. Below the gall bladder was the main part of the tumor, composed of matted omentum, intestine, parietes and inflammatory material, with a central cavity containing an ounce or two of pus and a few small gall-stones, and opening above into the gall-bladder. Having cleared the abscess cavity, I cleared the gall-bladder through the opening above mentioned, removing over 100 stones, some of which I show you, those nearest the duct being large and angular. The largest was wedged in the opening from the cystic duct into the common duct, and I had to break it up before I could extract it. Having thoroughly cleaned out the gall-bladder, I sutured the opening in the abscess sac to the parietal wound, and passed a rubber tube through the sac into the gall-bladder. My original diagnosis was thus thoroughly confirmed, even to the exact position of the impacted stone. I was led to form my opinion as to its position by the fact that, though most of the conditions pointed to impaction in the cystic duct, the occasional transient jaundice, with bilious urine and

white stools, showed that the common duct was sometimes obstructed, and I thought it very likely that a stone fixed in the opening and projecting into the duct might sometimes obstruct and sometimes not, according to the activity or quiescence of the inflammatory processes going on round about it.

The patient made a slow but good recovery. The wound healed well by first intention, but broke down again, apparently from the irritant action of the bile, and I had to strap with great care and heal it from the bottom to avoid a secondary opening of the peritoneum. This tendency to break down under the action of overflowing bile has been noted in a less degree in several of the cases, and necessitates very careful strapping from the first. When all had healed and the discharge had ceased on the thirty-second day, the patient had pain and fever, and the deep wound reopened, and a large discharge of bile and mucus took place, necessitating the reintroduction of the tube, and delaying convalescence for some weeks. The tube was finally removed on August 3rd.

The above cases are all the hepatic surgery which I have had in my practice since my previous paper on cholecystotomy, and when I remember the conditon of these six patients before operation, and contrast it with the health they all at present enjoy, I cannot but be proud of the record, and of British surgery, to which the advances in this special department are chiefly due.

The first two and the last had passed through the dangers of perforation of the gall-bladder, and formation of abscess round the escaped stones, before they came under my care, and are admirable illustrations of the pains endured and the risks run in this natural effort at cure. How much better to avoid them by a clean and careful cholecystotomy before adhesions have formed, which may lead to much after misery and danger, even if, as in these cases, the risks of perforation and subsequent surgical treatment are safely passed. These efforts of nature clearly tell the surgeon that it is his duty to afford a safe outlet for the stones and for the fluids which the irritation of their presence causes, whenever it is clear that the cystic or common duct has become occluded by the impaction of a stone.

The case of hepatotomy for hydatids is a good example of the rapid and satisfactory cure obtainable by this operation and drainage; while the recurrence of the disease after aspiration, and the large calcareous mass still remaining in the liver, and likely at any time to be a soucre of irritation and trouble, show how unsatisfactory these partial operations are.

It is perhaps worthy of remark that in all the three cases in which perforation and suppuration had taken place, the swelling formed was to the right or outer side of the usual situation of the gall-bladder, this deviation, together with neck of clear percussion, being so marked in the third case as to be considered a contra-indication of my diagnosis. I think I may say that in all the cases I have seen the tendency is for the distended gall-bladder also to bulge chiefly in this direction.

With regard to the cholecystectomy, I found it a much simpler operation than I had expected, and as the patient seems to do quite well without her gall-bladder, I should not hesitate to perform it again in any case in which the bladder was much damaged, or in which it was impossible to properly suture it into the external wound. Looking to the tedious convalescence in the cases in which the gall-bladder is sewn into the parietal wound, and to the possibility of re-formation of stones, I think the question of cholecystectomy *versus* cholecystotomy as a rule of practice will have to be seriously considered.

Watching these various cases, and the nature of the fluids contained in the distended bladder and discharged during healing, I cannot help having doubts as to whether physiologists are right in regarding the gall-bladder as a storeroom for bile; it seems to me that it is very likely intended to secrete a mucous fluid to mix with the bile, and render its passage through the duct more easy; the fact that bile finds its way into it and through it when it is cut open does not militate against

this suggestion, because any slight obstruction or closure of the outlet of the common duct would naturally cause the bile to flow back along the cystic duct and in the direction of least resistance when the bladder is open, and when it is closed it must act somewhat like one of the little rubber bottles with which we are all familiar, and squirt out fluid whenever its muscular coat contracts, and suck it in when it relaxes. Whatever its function, it is to many a source of infinite pain, and trouble, and danger, and if it is found that they get on as well without it, so much the better for their future peace. I do not wish it to be thought that I am advocating the performance of cholecystectomy, and leaving the stones, as a rule of practice; I merely did in this particular case what seemed to me at the time to be best, and the sequel proved that I did right.

The only remark I have to make about the fifth case, the simple cholecystotomy, is that the breaking down of the wound from the passage of the bile over it, and the slow closure and great discomfort suffered by the patient from the large quantity of discharge soaking through everything, made me often think whether it would not have been better for her if I had removed her gall-bladder. However, she has got her gall-bladder, and the wound has healed, and she is as well as her companion in misfortune who is without her gall-bladder. Since this was written she has been to see me, complaining of a good deal of pain about the site of the suture of the gall-bladder to the parietes, but I can detect nothing wrong, and think it must arise from the drag on the gall-bladder.—*British Med. Jour.*

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## THE DEGENERATIVE EFFECTS OF ANTIMYCOTICS ON THE PARENCHYMATOUS ORGANS, WITH SPECIAL REFERENCE TO RENAL SURGERY.

At a meeting of the Berlin Medical Association a paper was read by Dr. E. Senger on the above subject, reported for the *Med. Rec.*, (October 20. 1888), by Dr. John Elliott.

Dr. Israel said the thanks of the profession were due to Dr. Senger for his experiments on animals. Iodoform, especially indispensable as it is, must be carefully used on account of the mischief it may cause. Hogyer, Binz, and Hopfl had all proved that the introduction of iodoform into rabbits, dogs, and rats had produced parenchymatous changes in the kidneys, liver and heart; from the initial stages of cloudy swelling up to the highest degree of fatty degeneration. Post mortem examination had supplied the anatomical explanation of the symptoms of intoxication by iodoform. Cloudy swelling of the same organs, and, in one case, of the epithelium of the lungs, has been observed. Clinically, too, the effects of the drug in disturbing the action of the kidneys had been observed and recognized, partly in the form of a full representation of the symptoms of diffuse nephritis. Although Israel cannot adopt Senger's pessimistic views, he agrees that a warning is necessary, and that the antiseptics should be applied in a milder form. A step in this direction had been taken by Neuber, of Kiel, who irrigated recent, not infected wounds merely with a solution of common salt that has been boiled down. Further, Koeberle and Lawson Tait had been eminently successful in abdominal surgery without using antiseptics. With fresh-operation wounds careful disinfection may be confined to the skin, hands and instruments; in short, to anything that comes into contact with the wound. Thus infection by contact is guarded against, and infection by the air is of no importance. It is quite a different matter when you come to prevent the spread of existing infection—*e. g.*, in phlegmonous processes—or to protect a recently made wound in connection with communication with the intestine or cavity of the mouth from subsequent infection. In such cases chemical disinfection is indispensable. Perhaps a drug may still be found that shall destroy germs without injury to the organs. Israel says that Senger has totally misunderstood his hypothesis of reflex anuria, when he says that his theory is untenable in cases where there has been a

cessation of urine secretion after extirpation of a kidney, for Israel had stated expressly "that in anuria after extirpation there is too great a complication of factors for us to regard it as a certain proof of reflex anuria." The cases, on the other hand, in which Israel maintains the probability of a reflex origin of anuria stand in no kind of relation to Senger's subject of the poisonous effects of antiseptics, for they represent the complete cessation of secretion in both kidneys in consequence of one sided nephrolithic constriction in patients who have never undergone operation, and have, threfore, never needed the application of antiseptics.

Dr. E. Kuster remarked that Senger had spoken in such a way as to leave the impression that surgeons relied on antiseptics without any just reason, and disregarded the dangers connected with their use. That might be true of the time when antiseptics were first introduced, before a knowledge of their nature became general. Even in 1875, at the Congress of Surgeons, few dared to point to the danger, and at the International Congress, later on, Lister utterly denied that there was any danger in using carbolic acid. With regard to sublimate and iodoform the drawbacks were more quickly recognized. If, following Senger's advise, we were to throw the antiseptics treatment of wounds overboard, Kuster says we might certainly avoid the dangers of antimycotics, but would incur the far greater danger of wound diseases. Senger is wrong in his description of tne application of antimycotics.

Few surgeons during an operation keep up a stream of sublimate, generally, indeed, withdrawing it after the first incision, and only applying it at the end of the operation for a short time to the wound, from which it is then removed by sponges. Iodoform is usually applied with a sponge, which, having been rolled through it and then shaken, is carried lightly over the wound. If this method were dangerous statistics would show it. But the fact is that for six or seven years there have been no cases of iodoform intoxication. Even Von Bergman's so-called acid sublimate treatment is not accompanied by such danger as Senger describes.

Dr. Senger, in reply, said all operations might be divided into two groups. In the first group strong antimycotics were applied, and these were the less dangerous operations. In the second group weaker solutions, particularly of boric and salicylic acid, were used. Antiseptics were introduced with the intention of killing any fungi that might have settled in the wound,—in short, to disinfect. Antimycotic treatment was supported by the classical researches of Koch. Perhaps, however, it would be better, from the practical surgeon's point of view, to establish a basis by means of experiments in the disinfection of the pus cocci. No doubt strong antimycotic solutions, such as sublimate and carbolic acid, destroy the staphylococcus aureus, but the weaker solutions do not effect this, though where they are employed there is a greater—nay, a fatal—danger from a faulty antisepsis. Just in such cases in which strong solutions should be applied they are inadmissible on account of the danger of poisoning; and again, they are applied when they are much less needed. The theory and practice do not harmonize. To kill a pus coccus that has fallen into the abdominal cavity, washing with a four per cent solution of boric acid is not sufficient, for you could let the man lie immersed in such a solution for five days and not accomplish that object. The same may be said of salicylic acid. Yet the results of operations in the abdominal cavity are excellent, and Senger believes that it is only necessary to wash the wound with sterilized water. He lays no particular stress on the common salt solution. The disinfection of a living tissue he considers to be impossible. Either the tissue is free from germs, in which case there is no need of an antimycotic, or it is infiltrated with pathogenic fungi, in which case it is impossible to destroy the fungi without at the same time seriously injuring the tissue. Disinfection answers admirably on dead objects, but in the case of living organs more importance must be attached to vital energy. Did not

Virchow, at a time when it seemed as if the whole of pathology depended on pathogenic bacteria, especially direct attention to the conflict between the cells and bacteria? Surgical examination showed this in wounds in connection with syphilis, tabes, diabetes and other exhausting diseases, so that, in spite of the strongest antiseptics, it was impossible to prevent purulence and purify the wound, because the energy of the cells had much abated and disinfection was impracticable. By all means let dead objects, such as instruments, the operating-room, etc., be thoroughly disinfected, but after the first incision no antimycotic whatever should be used. In how far these theoretical demands can be met in practice must be decided by those who have great opportunities of practice. The latter alone can determine the cases in which antimycotics are indispensable, but the general rule of avoiding their use should be observed. —*Ther. Gaz.*

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## THE TREATMENT OF PUERPERAL SEPTICEMIA IN VIENNA.

BY O. W. DOE, OF BOSTON.

Two years ago I spoke at a meeting of this society upon the use of the curette in the treatment of puerperal septicemia, as then practised at Vienna. At that time this method of treatment had been carried out in Prof. Carl Braun's wards for only three months, but with remarkable success. This summer, while there, Dr. Egon Braun, son of the professor, and second assistant in his clinic, very kindly gave me the results of his experience during the past two years, and was very enthusiastic over his success. The nnmber of cases treated in this manner had been nearly five hundred; and out of this number I think only two had been unsuccessful. These two were cases that had been brought to the hospital after the disease had developed, and other treatment been practised. Until August, 1887, he had had 150 consecutive cases without any death.

The indications for using the curette were, chill accompanied by tenderness in the hypogastric region, and a rise in temperature to 102° or over. Dr. Braun emphasized the fact that the treatment to be successful must be instituted before the disease had extended to the tubes, and never in cases where parametritis exists, as the inflammatory condition is thereby increased. The blunt curette is the only one used after abortions and confinements, the sharp curette in cases of flowing that has continued for some time, and in cases of endometritis. The method pursued is the following:

The patient lies on her left side; the speculum is introduced, and the cervix drawn by a tenaculum. An intra-uterine injection of thymol 1:1000 is given, and then the interior of the uterus is thoroughly curetted, and the intra-uterine injection is then repeated. A suppository of five grains of iodoform is then inserted into the uterus. If there are any diphtheritic patches of membrane seen on the lips of the cervix they are scraped off and tincture of iodine applied. The same is also brushed over any small lacerated points on the vagina or perineum.

The vagina is now packed with iodoform gauze, which is removed after twenty-four hours, and vaginal injections of thymol given every day as long as there is any discharge. Dr. Braun says he has often removed half a tumblerfull of decomposing material with the blunt curette. The temperature after this treatment usually falls at once, but sometimes it will rise again on the second or third day, and then fall. Ice-bags are always applied over the hypogastric region after the curette has been used. Dr. Braun showed me a report of a number of successive cases. The first was a case of endometritis occurring on the fifth day. The curette was used on the sixth. The temperature before the operation was 101.1°, and fell gradually after the next treatment, andthe patient was well in six days. The temperature was 104.3°. The temperature fell at once to 98.6°, and did not rise subsequently above 100.4°. She was well in six days.—*Boston Med. and Surg. Jour.*

Removal of a Tumor of the Brain.—Dr. Bradford, of Boston, removed a tumor weighing nine drachms from the brain of a patient. The *Bost. Med. and Surg. Jour.* says: The symptoms, which had lasted about two years, were headache and double optic neuritis, with some vertigo and vomiting, tactile hemianesthesia, most marked in the left arm, and loss of muscular sense in the arm, paralysis of the left arm, and partial paralysis of the leg, with contracture and exaggerated tendon reflexes, and convulsions, beginning with a sensory aura in the left wrist and clonic spasm of the left hand. The tumor was located by Dr. P. C. Knapp before the operation, in the ascending frontal convolusion just below the level of the first frontal sulcus, and extending upwards and backwards. The correctness of the localization was proved by the operation. The patient, who was in a feeble condition, died of shock about three-quarters of an hour after the operation.

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Hypnotism.—The *Medical Bulletin*, in speaking of hypnotism, said: It is the fact that the operator can so influence the mind of his subject during the hypnotic period that when the patient is removed from his presence that instruction will be ever present and all powerful, and no matter what may be the consequences of the act, his advice will be strictly followed. An opportunity is thus afforded for monopolizing the patient, as he may be so impressed that no other person can bring him under the spell. The matter was illustrated to the satisfaction of Dr. Tucky, who saw a patient whom another operator failed to influence subjected to the suggestion of Liebault. During the hypnotic period she was asked why the first operator had failed, and was told that a certain operator had instructed her not to be influenced by any one except himself and Liebault.

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Dr. Andrew H. Smith, of New York, says that the reduction of surplus urea in the blood by a system of dietetics, affords the kidneys no physiological rest, as they only excrete a certain quantity anyway.

It seems this is not borne out by clinical observation. More urea is found in the urine during fever than during health, simply because there is more urea in the blood during the former condition.

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## BOOK REVIEWS.

L'Enseigemment et l'Organisation de l'Art Dentaire aux Etats-Unis. Dr. Kuhn. Octave Doin. Pp. 300, 1888. Paris.

An explanation of the object aimed at by the author in compiling this work is contained in the following note and preface addressed by him to:

"The Minister of Public Instruction: On the occasion of the Congress of Medical Sciences at Washington, you charged me with a mission, having as its object, the study of the schools, of the organization and the methods of dental art in America. Having followed with interest the advancement made during the last few years amongst our French confreres, I was desirous of comparing the conditions as existing in the United States, with those of our own country; of ascertaining what principles have guided the American societies; what causes have especially contributed to the prosperity of the dental art in the United States; and what information we could gain from their experience."

The wishes of the projector and of the author have been fully realized in the very complete work at hand.

The first chapter contains a sketch, somewhat historical as well as descriptive, of the status of dentistry in America and France. The second describes the development of the dental colleges in the United States, the methods of teaching, the length of time required before graduating students, etc. A handsome plate shows to advantage the University of Pennsylvania, both medical and dental parts.

The third chapter details the legislation that has been accomplished with reference to

dentistry in the various states; the fourth is devoted to dental associations, the fifth to dental legislation outside of the United States, and the sixth, after noting the points of resemblance and dissimilarity existing between French and American dental legislation, gives valuable hints for the benefit of the law-makers of his own country, based on deductions from his close and comprehensive study of the subject.

We take pleasure in recommending the book to all those who read French and are interested in our associate profession, dentistry.

BRANSFORD LEWIS.

## PAMPHLETS AND REPRINTS RECEIVED.

The President's Address. By Robert Battey, M. D., Rome, Ga. Reprint from Trans. Amer. Gynecol. Society, 1888.

Pulmonary Consumption Considered as a Neurosis. By Thos. J. May, M. D., Professor of Diseases of the Chest in the Philadelphia Polyclinic. Reprint from Therapeutic Gazette, Nov. 15 and Dec. 15, 1888.

Cases in Orthopedic Surgery. By Ap. Morgan Vance, M. D., Louisville, Ky. Reprint from New York Med. Jour.

Message of Gov. Rob't E. Taylor to the Forty-Sixth Gen. Assembly of the State of Tennessee, Jan. 10, '89.

Missouri Agricultural College Experiment Station, Bulletin No. 4. A Test of Tillage Implements. By J. W. Sanborn, Director.

The Constitution and By-Laws, with Officers and Members for 1888-9 of the American Pediatric Society, from Archives of Pediatrics.

The Contagiousness of Phthisis (Tubercular Pulmonitis). By Lawrence F. Flick, M. D., Phila.

The Philosophy of Memory. By D. T. Smith, M. D., Louisville, Ky.

J. B. Mastison, M. D., 1888.

Gonorrheal Infection in Women. By Wm. Japp Sinclair, M. A., M. D.

Femoral Osteotomy for the Correction of Deformity Resulting from Hip-Joint Disease. By Ap. Morgan Vance, M. D. Reprint from New York Med. Jour., Dec. 1, 1888.

On Giddiness. By Thos. Grainger Stewart, M. D.

Albuminuria in Bright's Disease. By Dr. Pierre Jaenton.

Wood's Medical and Surgical Monographs, Vol. I, No. 1, Feb, 1889.

Hot Water in the Management of Eye Diseases. By Leartus Connor, A. M., M. D., Detroit, Mich.

Success and Failure of Electrolysis in Urethral Strictures, especially Dr. Keyes' Method Reviewed. By Robert Newman, M. D. Reprint from Phil. Med. Times.

The Comparative Danger to Life of the Alternating and Continuous Electrical Currents. By Harold P. Brown, 201 West 54th Street, New York City.

Osteotomy for Anterior Curves of the Leg. By DeForest Willard, M. D., Lecturer on Orthopedic Surgery, University of Pennsylvania.

Biennial Message of Richard J. Oglesby, Governor of Illinois, to the Thirty-sixth General Assembly. Springfield Printing Co., Springfield, Ill.

Official Proceedings of the Chicago Medical Society. Supplement Western Medical Reporter, Jan., 1889.

The Radical Cure of Varicocele Attended with Redundancy of Scrotum Demonstrated by Time. By Henry H. Morris, M. A., M. D., L.L. D., of New York.

First Three Fasciculi of the Atlas des Maladies de la Pean (Dermatologie et Syphiligraphie). By Dr. Silva Aranjo. G. Leuzinger & Filhoss, Rio de Janeiro.

Lecons de Gynecologie Operatoire. By Vulliet and Lutand. 1889. Pp. 448. J. B. Bailliere et Fils, Paris.

L'Enseiguement et l'Organisation de l'Art Dentaire Aux Etats-Unis. By Dr. Kuhn. 1888. Pp. 300. Octave Doin, Paris.

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# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### SOME POINTS IN OPHTHALMOLOGY.

BY R. L. THOMSON, M. D.

Read before the Medical Press Association.

The principle involved in the old saw, "One man's food may be another man's poison" holds good in the treatment of diseases of the eye, as it does in other departments of medicine. For instance, atropine dropped into the eye of one patient may allay irritation, quiet pain and effect a cure of the existing disease, while in another it may act as an irritant, setting up an acute inflammation, or if the eye has a tendency to increased tension, glaucoma may be the almost immediate result.

In accepting general principles we are too apt to overlook the exceptions. I have seen many cases of phlyctenular keratitis quickly cured by the use of atropine alone, but I have also seen cases that were made worse by its use. I cite a case. A girl fourteen years of age came under my care after she had been treated for more than two months by instillations of atropia (grs. iv to ʒj) into her eyes.

When I first saw her there was so much photophobia that a perfect examination could not be made without giving the patient great pain. I succeeded in seeing the eyes sufficiently well to make a diagnosis. There were three or four superficial ulcers in each eye, the lids were edematous, the upper overlapping the lower ones, and the profuse flow of tears indicated that intense irritation existed. An erythema and a few very red papules of the skin around the eye gave me a key to the situation. I stopped the use of atropia, applied adhesive strips to pull the lower lids from beneath the upper ones, and without any other treatment my patient recovered in a short time. Had the atropine been continued in this case the patient would have eventually lost her vision.

The practice of habitually prescribing on general principles often leads to grievous errors—the medicines given doing more harm than good. Drugs should be used to produce a definite effect, and if this is not attained in a limited time, treatment should be suspended that the true condition of the patient may be known. Of course this does not hold good when danger is imminent.

Hot poultices applied over inflamed eyes relieve pain, but they destroy many eyes. In the Manhattan Eye and Ear Hospital in New York, where we had an average daily attendance of one hundred and seventy patients, I learned to tell in nearly every instance whether or not the eye had been poulticed. When a poultice is applied hot it is stimulating, but when it cools it reduces the vitality of the part by making it sodden. Especially is this remedy dangerous where there is ulceration of the cornea. It matters not whether the poultice be made of ground flax seed, bread and milk, tea leaves or a raw oyster, the effect is the same. Patients should be warned not to apply poultices to their eyes.

Every practitioner should have a two inch lens with which to look for foreign bodies on the cornea. With very little practice any one can learn to detect the smallest substance on the clear cornea. A cinder, a piece of stone, a grain of sand scarcely larger than a pin point may give rise to intense irritation. This is important, as physicians

frequently prescribe astringents for such cases and this greatly adds to the discomfort of the patients. Fortunately, the tissue surrounding the foreign substance breaks down and the foreign body comes away. In some cases, however, the cinder or other substance may be imbedded in the corneal tissue proper and then the resulting inflammation may destroy the eye unless the cinder be removed.

When a patient has a conjunctivitis of one eye only it is highly probable that the cause is local and a thorough search should be made for a foreign substance. I cite a case. A young man who lives some distance from St. Louis, while threshing wheat, felt a sharp pain in his right eye. A physician saw him, but found nothing in the eye, so he treated the case for two weeks as one of conjunctivitis. At the end of this time the case presented a rather unusual feature; there was ptosis, the patient being unable to raise the upper lid of the eye. Fearing grave trouble the patient was directed to the Sisters' Hospital in this city and he came under the care of Dr. Pollak and myself. Upon examining the eye, besides the ptosis, I found a somewhat localized conjunctivitis beneath the upper lid. The tonic spasm of the orbicular muscle was such that the lid could not be satisfactorily everted. I was thoroughly convinced that a foreign body was still in the eye or in the tissue of the upper lid. I instilled cocaine into the eye, wrapped a small piece of cotton on a probe, wet it in warm water, and gently swept the upper cul-de-sac twice with it. The second time I brought away a piece of wheat-beard, three-quarters of an inch in length.

Every physician who essays to treat even a conjunctivitis should first learn to test the tension of the eye. Glaucoma is not a common disease, but it occurs sufficiently often to command attention of every physician. That which makes a recognition of this disease so important is that if diagnosed and properly treated in its incipiency, useful vision may be saved, whereas if left alone total loss of vision is the inevitable result. I have seen three cases since I came to St. Louis in which the vision of both eyes had been totally lost from this cause. It is getting to be quite the custom for physicians to prescribe a solution of cocaine for patients to use at their own discretion. Dr. Kipp, of Newark, N. J., has reported three cases of follicular conjunctivitis that were produced by the continuous use of this drug. It is detrimental to the interests of both patient and physician to place any remedy in the hands of the patient to be used at his discretion. If a patient is sick enough to need medicine he is sick enough to have specific directions as to how the medicine should be used.

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## Discussion.

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Dr. C. H. Fairbrother.—In this month's *Lancet* there is a leading article, and a very fine one, about the reform in medical education, and the remarks were directed especially towards the department of the eye. The author details the advantages to the general profession of a better knowledge in this specialty. He says that in the London schools, the student is graduated with but little knowledge of this kind. His examination on this subject is either passed over or is very superficial and however advanced he may be in other departments he feels that his rights are encroached upon, if he is examined closely in ophthalmology. Instances are given of students the most advanced in surgery and other departments, who have even won prizes in anatomy, but are woefully ignorant in the common forms of diseases of the eye. One student when called upon unexpectedly to make a diagnosis of the affection of an eye set to work with a two inch lens to examine the case and pronounced it glaucoma. It was an entirely different disease, however. The professor allowed the diagnosis to pass, but wondered at the dense ignorance manifested.

Dr. F. R. Fry.—It seems to me that there is no excuse for suspecting of a central lesion in the case of ptosis reported by Dr. Thomson. Ptosis from central lesion would be due to

paralysis of the levator. I want to ask if there was not some spasm of the lid?

Dr. Thomson.—There was a certain amount of tonic spasm.

Dr. Fry.—There must have been some to have held the muscle down. It was spasm of the orbicular muscle and not paralysis of the levator.

Dr. Thomson.—In ordinary paralysis of the muscle you can turn the lid up with ease. In this case I could not turn it over. There was spasm of the orbicular muscle.

Dr. Fry.—The presence of conjunctivitis is the best evidence you want of local origin.

Dr. Thomson.—You can have a red eye with a central lesion present also.

Dr. Fry.—I think that in any case of that kind you could adduce evidence of spasmodic condition of the orbicular muscle and determine in that way that it was the orbicular muscle and not the levator.

Dr. A. H. Meisenbach.—Dr. Thomson's paper is a practical one, especially for the general practioner. Every one who has been engaged in this kind of work knows that there are many cases of eye troubles that come to him in the acute stage, and there is nothing that casts more opprobrium on the physician than a badly managed eye disease, and the patient feels hurt when the case goes wrong, more so than in any other affection. I have had some experience in the various troubles about the eye and especially those in which foreign bodies are concerned. You will find amongst men who work in iron that it is common for them to get foreign material into the eye, little chips of stone and steel. The physician must take a great deal of care not to overlook these little particles. The doctor's sweeping out the cul-de-sac of the eye reminds me of a way of removing them from the cornea. It is to take a pine stick, make it sharp and wrap a thin filament of cotton around it and pass it over the cornea. It is a nice procedure and sometimes will obviate a more severe operation. Another thing for which the physician is to be prepared is the difficulty in determining whether it is really a foreign body in the cornea, or whether it is simply a natural condition of the iris. I use reflected light.

If a patient comes to me with an acute trouble, I prescribe for it, but if it does not make favorable progress, I simply turn it over to an oculist. Unless it is of a very aggressive character there is no harm done.

Dr. Y. H. Bond.—In regard to that feature of Dr. Thomson's paper which refers to the use of cocaine in the eye, I will say that there seems to be an impression at the present day that cocaine, when used as an anesthetic in operations, interferes with the healing process; that it tends to a necrobiosis. And it may be that this property manifests itself in eye affections.

Dr. Wm. Porter.—I saw an interesting case this summer while riding on a train. A man got a cinder into his eye; he suffered of course greatly and attempts had been made to remove it. I devised a little method of my own for that purpose. I happened to have a little cocaine in my pocket which I instilled into the eye. I then found that there was deeply imbeded in the cornea a little cinder. I took a large needle, passed the point into a stick of wood and then pressed the eye of the needle over the foreign body, hooked it, and it required quite a little pull to disengage it.

Dr. I. N. Love.—When I was on my summer tour in the neighborhood of Carondelet I found a patient who had gotten a foreign body into his eye. His mother was making him blow his nose violently. It was effective.

The point made by the essayist that each of us carry a glass for the purpose of examination, is a good one. We should all be equipped with a view to being able to make a proper diagnosis and to know whether we ought to attend the case or refer it to specialist. In order to accomplish that a thorough equipment for that purpose is desirable.

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## THE "INSANE EAR."

Quite a good deal has been written concerning a peculiar disease of the ear known as hematoma auris. The disease is characterized by a rapid effusion of blood or bloody serum between the cartilage and the perichondrium of the auricle. Its etiology is not well understood. Some writers hold that it is always the result of violence, while others believe it to be dependent upon disease at the base of the brain. Brown-Sequard states that he has produced the disease in lower animals by irritating the restiform body, the tumor appearing in the ear corresponding to the side irritated. The fact that it is, comparatively, of frequent occurrence among the insane lends weight to this theory.

Dr. Tompkins (*Brit. Med. Jour.*) says:

Having been on the watch for the "insane or some months past, I have noticed in the street and elsewhere about a dozen cases, all occurring in young men—to judge by their physique, etc., more probably football players than ex-lunatics. One case only which presented the appearance in both ears showed unmistakable signs of dementia. I can only remember one case in which the hematoma developed while under my supervision during three years' residence in county asylums, and this occurred in a very boisterous case of recurrent mania. I cannot remember having had more than two or three at one time out of nearly 300 patients, these having developed at some period previous to my acquaintance with the patients.

Dr. Pilkinson says that the disease is seen much less frequently now than formerly among the insane. He merely gives this as his observation, and presents no reasons or figures to substantiate it. He says:

"I have never seen an idiopathic case, and do not think that the proportion of persons in whom the affection is seen is greater among the insane than among the sane population.

"It is an interesting fact that in cases of chronic insanity the left ear is always affected, and that this condition is never seen in cases favorable for recovery."

I have seen one case in which no history of traumatism could be learned, and the patient, a man forty-five years of age, was perfectly sane.

One remarkable feature of the disease is, that whether the hematoma is opened or left to be absorbed, marked deformity of the auricle results.

## KERATONYXIS.

Most cataracts, either traumatic or idiopathic, which occur in patients under the age of forty, are capable of being absorbed when the lens substance is exposed to the action of aqueous humor. For this reason they are known as soft cataracts. If one of these opaque lenses is found in an eye in which the perception of light is perfectly good, and the process of absorption has not begun, the vision may be restored in one of two ways—by extracting the lens or by causing it to be absorbed. It has been shown that the first of these procedures is attended by quite a good deal of risk to the eye, on account of the amount of cortical substance that usually remains behind. In order to dissolve the lens in the aqueous it is necessary to wound the anterior layer of the capsule. This is done best by passing a needle (made for the purpose) through the cornea and into the lens substance. This operation is known as keratonyxis. It may give rise to two sources of danger. If the capsule be merely punctured the swelling of the lens in its capsule may

cause it to press upon the ciliary bodies and produce a dangerous amount of irritation, and if the capsule be sufficiently divided to allow the escape of the swelling lens substance into the anterior chamber, it may act as a foreign body setting up iritis that may destroy the eye. It is now a mooted question as to which of these procedures—the puncturing or the free dividing of the capsule—is attended with the least amount of danger. Experience alone must decide.

The latter has two decided advantages in that fewer operations are necessary, and the lens substance is dissolved in a much shorter time.

When the capsule is simply punctured the swelling of the lens may be sufficient to rupture the capsule.

The simplest method of removing loose lens substance from the anterior chamber is to introduce a Landoldt's keratome through the lower margin of the cornea and carefully depressing the instrument permit the aqueous to escape with sufficient force to wash the cortical substance with it.

Dr. David Webster, of New York, reports (*N. E. Med. Mon.*) three cases, in each of which an eye was lost from repeated needdlings, these being the only ones which have occurred in his extensive private and hospital practice, and this alone is proof that in careful hands the operation is a comparatively safe one.

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## Carbolic Acid in Typhoid Fever.

In a paper on this subject, in the *American Practitioner*, Dr. R. W. Powell says:

"I have used carbolic acid time and time again in enteric fever, especiallly of late years, but my anticipations have proverbially been disappointed. I have used it in all classes of cases—mild, severe, in young and old, in males and females,—and I cannot say I have cut enteric fever short by even a single day. At times it has seemed to modify the case; and mollify the symptoms, and I have rested satisfied. On other occasions I have had to discontinue it from a variety of causes, chiefly on account of its nauseating taste, which is so difficult to mask. At other times it has seemed to increase the headache so prominent in the first week. Again, it appeared to depress the heart. I found, however, that the rule was younger persons were more amenable to its use than older."

Following this Dr. Powell writes:

"I fully believe that I have had a case of real enteric fever absolutely annihliated and cured in a week by carbolic acid."

It is a sad fact for the profession that good men will allow their desire to cure patients so to bias their judgement that they will attempt to establish a rule or principle on the result in a single case when the experience of years, as in the above case, stands out against it.

Granting that the patient treated by Dr. Powell had typhoid fever, it by no means follows that the cabolic acid had any effect on the course of the disease.

Flint analyzed 42 cases with reference to the precise day on which convalescence is established, and he found that counting from the time the patients took their beds, the average duration was 16 days, and the minimum five days.

In Dr. Powell's case the patient was not reported as convalescing till the eleventh day. Considering also the fact that the only pathognomonic sign of typhoid fever is the ulceration of the intestinal glands Dr. Powell had but little evidence upon which to base his belief. The truth is the more we learn of the clinical history of the disease the fewer specifics we have in our drug list.

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## Antisepsis and the Country Physician.

Dr. G. Walter Barr, of Bridgeport, Ill., writes the *Med. and Surg. Rep.* "The greatest God-send we have received for many a day is antisepsis. No one has a more correct idea of the word than the country doctor."

Dr. Barr should have said that no one appreciates the benefits derived from the anti-

septic method of treating surgical cases, more than the country doctor.

The work of the country practitioner is far too laborious for him to attempt to carry out any extensive investigation as to the exact limits of antisepsis. As Dr. Barr says, his circumstances demand that he shall accept only that which is proven to be good. He says:

"The most convenient antiseptic for our class is bichloride of mercury, because of its very small bulk in ratio to its efficacy. Ammonium chloride is always carried for cough-mixtures, and this dissolves the bichloride in rainwater. Enough gauze for one dressing has a small bulk, and has a suitable quantity of iodoform. With these in his case, the country doctor takes whatever is at hand and operates antiseptically."

To this should be added one other, and that is boiling water. In a number of scientific experiments conducted by Dr. Knapp, of New York, he found that dipping instruments in boiling hot water and wiping them with a clean cloth was sufficient to render them aseptic, even when they had been previously dipped in septic material.

One of the greatest difficulties that the country physician has to contend with in carrying out antiseptic principles is to keep his hands and finger-nails clean, on account of the chapping from exposure to cold. He should not be considered foppish or frivolous if he wears gloves on any and all occasions.

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### Transposition of Thoracic and Abdominal Viscera.

Dr. W. W. Gannet reports a case in the *Boston Med. and Surg. Jour.*, in which an Italian, aged 25 years, died of cerebro-spinal meningitis. The autopsy was an interesting one as it revealed a complete transposition of the thoracic and abdominal organs. The heart was on the right side and the aorta arched over the right bronchus, passing down somewhat to the right of the spinal column; the vena cavæ were on the left side; the liver was in the left side the spleen in the right; the stomach was reversed, the pyloric end being to the left; the colon was reversed, the cecum being in the left iliac fossa, the sigmoid flexure in the right.

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### The Treatment of Dilatation of the Stomach.

Ott (*Deutch. Med. Wochenschr.*, Sep., 27, 1888, 807) says that the treatment of dilatation of the stomach must always depend on the cause of the affection, since there is no treatment applicable to all cases. The cause should be removed when possible, but when this is a stenosis, we can only treat the disturbed chemical processes of digestion, and in this way often cure the ectasia. The chief means to this is end the systematic lavage of the stomach. In carcinomatous ectasia this procedure is very useful, combined with the administration of peptone preparations. In dilatation from hyperectasia unlimited supplies of water cannot be allowed, and the intense thirst must be quenched by iced milk or pieces of ice. Massage, properly carried out, is a very useful measure. Electricity, as faradization, should also be employed, one pole over the left hypochondrium, and the other movable from the cardia to the pylorus. The current should be rather strong, and the seance last five minutes. The administration of Carlsbad water is also a very useful adjunct, since it diminishes the secretion of hydrochloric acid. Given in the morning, it can take the place of the lavage, which would otherwise be necessitated at this time, and this procedure may be reserved for evening, instead of being applied twice daily.

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### Acute Intestinal Occlusion.

Coppens (*Archiv. Gen. de Med.*, Oct. 1888, 513) sums up his report of a case of intestinal occlusion with discussion of symptoms, as follows:

1. Of all the varieties of pseudo-occlusion, peritonitis from perforation is the only one which it is possible to confound with

acute intestinal occlusion; an error which has been often committed.

2. The diagnosis between these two affections is of course necessary before treatment can be thought of.

3. This diagnosis is impossible; the most important diagnostic signs being drawn from the examination of the temperature, and from the degree and method of onset of the meteorism.

4. Contrary to what has been hitherto maintained, it is peritonitis, and not in occlusion, that the earlier and most extreme degree of distention of the abdomen is met with.

5. Though it is impossible to distinguish intestinal occlusion from pseudo-occlusion, it is almost always impossible in the former to know with what variety we have to do. To determine this, however, is of almost no importance so far as treatment is concerned.

6. It is dangerous in intestinal occlusion to resort too long to palliative means. Surgical intervention should be made early, under the conditions which the author describes in the body of his paper.

7. The abdominal incision ought to be median, and sufficiently large to permit of rapidity and ease in exploration.—*Med. Rec.*

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### A Case of Traumatic Aneurism.

An interesting case is reported in the *N. O. Med. and Surg. Jour.* in which a man, æt. 26 years, gave a history of having been stabbed two weeks previous to his entering the Charity Hospital, the knife entering about one inch from the insertion of the great pectoral muscle.

On examination he was found to have a large pectoral abscess and partial paralysis of the left arm. The abscess was opened and found to contain a large quantity of pus and blood-clots. A compress was applied, but at intervals of two or three hours three hemorrhages occurred, the last one, in which the blood was evidently arterial, leaving the patient almost in a state of collapse. Dr. Miles was summoned and on opening the abscess cavity he found that one-half of the axillary artery was divided, the wound gaping and bleeding profusely. The median nerve had also been divided. The artery was tied above and below the wound.

At the termination of the operation the patient's pulse was 170 and scarcely perceptible atthe waist. Dr. Miles injected one pint of saline fluid (60 grains to a pint of warm water) through the medico-bacilic vein. The patient rallied at once and he is now convalescent.

The apparatus used was made of a large glass funnel, a long rubber tube and canula. The fluid was poured into the funnel, which was held above the patient, and allowed to run until all the air was expelled from the tube and canula, then the latter was inserted in the vein and the fluid carried into the circulation.

This is a very much simpler process for increasing the volume of the blood, than that of transfusing the blood of a healthy person into a patient. The former is certainly less dangerous, and good authorities say it is quite as effective in extreme anemia from hemorrhage.

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### A Convenient Eye-Water.

There is a great deal in knowing what not to do in the treatment of disease, as is well illustrated in a case reported by Dr. Shaw in the *Canada Lancet.* The patient, a young man, had had "weak eyes" for some years, which he treated by useing his own urine as an eye-wash. He contracted a case of gonorrhea but this did not deter him from using his favorate eye-water. The result was a well-marked case of gonorrheal ophthalmia. Query: If there is anything in *similia similibus curantur* why should the "eye-water" treatment have been discontinued?

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### Mechanical Digestion.

Among the novelties that have found their way to the editor's table is a description of the Peristalt, an "automatic machine" of which its describer says:

"This sublime instrument hung upon the

wall of one's room is an ornament to the studio, bed-chamber or bath-room. This marvelous machine takes the place of the magnetic healers' work. It is a sure cure for constipation, torpid liver and dyspepsea."

It is presumed that the machine is "wound up", as the patient is instructed to press his stomach against the machine and the artificial digestor does the work automatically. In reading the article referred to, one is reminded of Puck's apt quotation, "What fools these mortals be."

### Electricity in Chloroform Narcosis.

Dr. Ewell, of Chicago, wishes to know if any of the readers of the Review can refer him to "any literature stating who was the first to use electricity in chloroform narcosis." Dr. Isaac Douglass, of Rome, Mich., has furnished an account of its successful use by him in such a case March 20, 1857.

### Training School for Male Nurses.

The beginning of this year has seen the establishment in New York of the Bellevue Training School for male nurses. A magnificent building has been donated for this purpose, by the Hon. D. O. Mills. The institution is probably the first of its kind in America, and is intended to train male nurses in a somewhat similar manner as the females are now trained. The term of service is two years; during that time the pupils receive free board and washing and a salary of $15 per month. Their work in the wards is supervised by experienced female nurses, who are graduates, and besides the training they receive in the hospital, they are compelled to attend a full course of lectures on the various subjects. At the end of their service, if proficient, they receive a diploma, and efforts will be made to keep them supplied with private cases. From all accounts the experiment is, so far, a decided success; the necessary number of applicants have been secured, and the condition of the wards of the hospital has been much improved. As yet it is in its incipiency, but if successful, it will doubtless be followed by similar institutions throughout the country.—*Can. Lancet.*

## SELECTIONS.

### TREATMENT OF INTESTINAL OBSTRUCTION.

BY J. M. BALDY, M.D., PHILADELPHIA, PA.

Obstruction of the bowels with its attendant evils is of such frequent occurrence as to demand our most constant vigilence, both in its diagnosis and treatment. If over two thousand individuals die every year in England alone from various forms of bowel obstruction, exclusive of hernias, as is stated by Treves, we can easily imagine the large numbers of our own countrymen who daily succumb to these affections. We have only to glance over medical journals and the death-list of some of our large cities to see that the statement is in all probability true.

The difficulties in the way of a complete differential diagnosis are at the present day simply unsurmountable. The sooner we candidly acknowledge this state of affairs and cease trying to make fine distinctions, however desirable the attainment of this may be, the better and more effectual will our treatment become. When we consider the bare list of the possible forms of obstruction that are concerned in a differential diagnosis, the difficulties become at once almost beyond our control. The great symptoms of obstruction, viz.: pain, vomiting and constipation, are common to almost every variety, in greater or less intensity; no two cases of even the same variety run a similar course and present like features. No hard and fast rule can be laid down in studying cases of intestinal obstruction; every case must be considered on its own merits, and the history must be most carefully investigated, as here we will often find the clue to our approximate diagnosis, for I do not believe that, but in exceptional cases, we can make more than approximation at the true condition. We can become rea-

sonably certain that an obstruction exists but whether it be a knuckle of intestine bound down by a band, a knuckle strangulated through a slit or aperture of some kind, an organic stricture, a twist of the gut or what not, it will be in most cases impossible to say. The first question to be decided in any given case is whether we really have an obstruction. Pain and constipation, more or less absolute, are the primary symptoms observed. These are soon followed, if relief be not obtained, by vomiting and finally collapse. The intestines above the seat of obstruction become gradually filled with gases and fecal matter and the distended coils may often be easily seen and felt through the abdominal walls. Tenesmus is usually present. The temperature in cases associated with shock is subnormal and rarely becomes high unless associated with some inflammatory condition. With such a combination of symptoms we may be reasonably sure that there is a positive obstruction.

Much valuable time is spent, as a rule, in trying to determine the seat of obstruction, and many methods have been adopted with this end in view. A great deal has been written on the value of enemata for this purpose. For diagnostic purposes enemata are absolutely worthless. I shall not go into a long discussion of this subject but will simply say that experiments made on the dead body and on a normal gut without taking into consideration abnormalities such as occur with every case of obstruction, connot be considered scientific. The passage of the much-vaunted long tube is equally as useless. In some rare cases this may have been passed beyond the sigmoid flexure, but I am not prepared to believe that such has been the case. This is not compatible with the anatomy of this part of the large intestine as given by Treves in his "Anatomy of the Intestine and Peritoneum." He here says that the sigmoid mesocolon may be as much as nine inches in length. In his work on "Intestinal Obstruction" he mentions a case which illustrates a very common mistake and which I have seen made. He says "the surgeon passed a long tube, and demonstrated with triumph that its end could be felt near the umbilicus. He maintained that the instrument had reached the center of the transverse colon." The autopsy revealed an impervious stricture of the commencement of the sigmoid flexure. Auscultation of the colon as water is gently forced into it by means of a syringe is of some value in locating the stricture, but at best this is a very uncertain way and is applicable only to the large intestine. Granting, after having tried all these means, we imagine we have located the seat of obstruction, how much better are we off than we were before? If the case be an urgent one, we have been wasting valuable time in order to obtain knowledge which will do us no practical good. To know the seat of the obstruction does not tell us much as to its character, nor are we then in much better position to treat it than we were before. To my mind laparotomy affords the only rational way of settling this question when it must be settled. If by laparotomy we obtained no other advantage than the mere knowledge of the seat of the trouble I would stand ready to condemn the operation in unmeasured terms; but by this means we are put in possession of the exact pathological conditions present, as we cannot be by any other possible method, and are put in a position to treat the patient intelligently and scientifically and without farther and often fatal loss of time. No other line of treatment yields us such advantages and in the great bulk of them we are groping around in the dark, and trusting far more to providence than she is capable of taking care of.

Purgatives are allowable in cases of fecal impaction, and in some cases of obstruction by foreign bodies, but for any other form they are not to be thought of for a moment. In fact, practically they should be discarded altogether, for we can never be sure the case is one of impaction, and the risks of damage, should it prove otherwise, are too great to be taken. The old plan of treatment by metallic mercury is only mentioned to be condemned as useless. Along with massage,

electricity, and purgatives, it may do good in fecal impaction, but who can stretch their imagination far enough to see how it can cure an intussusception or a strangulation by a diverticulum? One can readily understand how electricity may be of advantage in those cases in which a paresis of the gut takes a conspicuous part, but how it can do anything but warm in strangulation, by bands and the like, is hard to conceive. Massage is equally as useless, excepting in such cases as the above, and I should expect any one, carrying this treatment to the extent of abdominal taxis as practiced by Hutchinson,to kill more patients than would have died naturally. These methods of treatment all increase peristaltic action, and in most cases this is exactly what we should wish to avoid. It would seem to me advisable to abandon even a trial of these remedies, especially as we have others far superior. Opium is of the utmost value in cases of intussusception. It allays the active and irregular peristaltic action of the intestine, and in the early stages, at least, of the process gives the gut a fair chance of returning to its normal condition. It eases the agonizing pains of an acute obstruction and relieves the vomiting. The drug should be used however, with the utmost care, and we should bear in mind that while the active symptoms are being held in abeyance, the damage to the gut is going on. Unless opium gives quick relief to the obstruction itself, manifested by a passage of the bowels, its administration should be soon followed by more active measures. It is worse then folly to render a patient comfortable, and then to sit by until a piece of his intestine has become gangrenous.

The treatment, par excellence, aside from the surgical aspect, is by enemata. Illoway in his monograph on intestinal obstruction, urges very strongly the use of enemata under heavy pressure, using a force-pump for this purpose. He contends that water can be forced past the ileo-cecal valve into the small intestines, and that thus obstructions in this part of the canal can be reached. I am very much inclined to doubt the possibility of water passing beyond the cecal valve when it is in a healthy condition. Most of the experiments made to ascertain the truth in this matter have been on dead subjects, and therefore must always be open to criticism. The cases of Dawson, which Illoway uses to sustain his position, go to prove a decided uncertainty in the matter. Dawson demonstrated fourteen cases before his class, and in two of these the valve yielded and the water passed upward. If the valve holds in almost 86 per cent. of these cases, and this in dead bodies, we cannot put much reliance on it for practical purposes. But, whether the water passes up or not, the amount of force used by Illoway is dangerous. It is like working with a two-edged power in the dark, and trusting to providence not to rupture a badly diseased gut, or do some other damage. An enema given gently, in sufficient quantities, and persistently, will do all the good possible to be done by enemata at all. I cannot see what more good can be accomplished by the forcing method, unless it be in some rare case of intussusception. Insufflation acts in much the same way as enemata, but is much inferior to them; in fact an enema must be used to clear the bowels before the insufflation can be used at all. The amount of good done by filling the bowel with salt water and sending a current of electricity through it has about as much sense in it as many other uses to which electricity is put, and will accomplish about as much good.

It is, however, the height of folly to waste much time on these methods. If we knew exactly the condition of affairs we could apply one of the treatments appropriate to the case intelligently, but as I have said, that is exactly what we do not know, and by laparotomy is the only way we can find out. It is true that laparotomy has not been as successful as it might have been, nor is there much hope of a very great improvement in this respect until physicians recognize that intestinal obstruction is purely a surgical disease, and should be turned over to the surgeon at once, that he may be able to watch the case and interfere in time, and not have to operate as a last resort.

Treves has collected together, exclusive of cases of intussusception, 122 cases of laparotomy for intestinal obstruction, with 77 deaths, about 63 per cent. Of these deaths, one was from strangulation by foreign body, and from strangulation by diverticula, 3 from strangulation through slits or apertures, 6 from internal hernia, and 31 from strangulation by bands, making a total of 49 preventable cases, with a good chance of saving some of the others had an operation been undertaken in time. Schramm has collected together 193 laparotomies for intestinal obstruction, including cases of intussusception, with a mortality of about 64 per cent. Of these cases the operations done prior to 1873 gave 73 per cent of deaths, while those done since that time, under our improved methods, gave only 58 per cent mortality. In commenting on this list, Treves says, "A large number of the recorded cases were totally unfit for operation. Some of the patients were almost moribund at the time the laparotomy was performed; others were in a condition of profound exhaustion; in some there was acute general peritonitis; in others fecal extravasation had already occurred before the abdomen was opened. Laparotomy has been done in cases where treatment had been so long delayed that the gut was gangrenous, and became ruptured when handled." Shramm's table shows in a graphic manner how serious a delay, even twenty-four hours, may be. In a series of simple exploratory laparotomy cases which I have collected with the object of determining the danger to life from the simple section itself, and which I hope soon to publish, I find seven cases of intestinal obstruction, with three deaths, about 43 per cent mortality. Two of these deaths were in cases of obstruction caused by bands, and the obstruction was relieved by simply pulling the gut from under the band. In both cases the bowels were opened spontaneously a short while after the operation, and all the urgent symptoms disappeared, but the patients failed to rally from the collapse they were in at the time of operation. There is no reason but that both these cases could have been saved had the operation been undertaken a day earlier. I assisted a friend at just such a case recently. The obstruction was an inflammatory band, and the patient could have been saved had we operated twenty-four hours before. As it was, she never recovered from the almost unconscious condition we found her in. Fagge has recorded a case of a woman who died of acute obstruction after six days' sickness. The autopsy revealed a portion of the ileum strangulated by the pedicle of an ovarian cyst. On moving the tumor a little the bowel was easily reduced. I might go on giving examples, *ad infinitum*, but enough have been given for the purpose. Conservatism, which is being constantly preached at us, is used now days, not only to condemn the sins of commission, but also to cover up the sins of omission. The conservatism of twenty years ago is no longer conservatism, but has degenerated into the cloak which covers a multitude of sins of omission and do nothing. The only objection to the treatment by laparotomy can be the amount of danger there is in the section of the abdominal walls and the introduction of the hand into the peritoneal cavity, together with the manipulation of the intestines. This danger is not so great as many imagine it to be, as I will be able to show, very shortly, by my list of exploratory laparotomies referred to above. Certainly not sufficiently so to stay our hands in such cases as these under discussion.

The two great factors that affect the issue of the operation are the condition of the patient and the state of the intestines. Both these conditions can be found favorable if we operate early, and this desideratum being obtained, there is no good reason why the mortality should rise above that of the operation for strangulated hernia. It is claimed that in an early operation we do not know what we are operating for, and may open a case of fecal impaction, and that, therefore, we should wait. Such a mishap is to be regretted, and would not happen often in proper hands. But even if an occasional case should occur, it would not be such a terrible

thing, as it would recover without much trouble, just as hundreds of other exploratory cases recover, and we would have ample compensation in the marked decrease in the death rate of cases with intestinal obstruction.

With Winslow, "I would express my opinion decidedly against any and all severe methods of attempting to overcome the obstruction, whether by rough manipulation or by rectal injections under strong pressure;" also against the waste of valuable time by trying such means of relief as purgatives, metallic mercury, insufflation, massage, electricity, puncture, and the like.

The treatment which seems the most rational is that by gentle and properly applied enemata. They are entirely safe and free from all danger, and in no way prejudice the case should laparotomy become necessary. In fact, they are distinctly of advantage by freeing the intestines below the seat of obstruction of all extraneous matter. If, after a short but faithful trial with these, no result is obtained, and we feel reasonably certain that the case is not one of fecal impaction, no more time should be lost, but the abdomen be opened at once and without further hesitation. The case can then be treated in such a manner as the pathological condition calls for.

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## DIGESTIVE FERMENTS.

BY LEROY WEEBER, PH.D.

At a meeting of the Detroit Pharmaceutical Association, held January 2, at their rooms in the Cowie Building, in Detroit, Mich., by invitation, a lecture on the digestive ferments was delivered, of which we present the following abstract:

Every mental and physical process or effort causes a waste of bodily tissue. This waste is repaired in the conservation of living organisms by the assimilation or incorporation of matter formerly extraneous. As much needed material exists in the external world in an unassimilable form, this must first be converted. The processes of conversion known as digestion and assimilation are therefore eminently deserving of our intelligent and careful study.

Passing over, for the present, the preliminary subdivision or mastication—an important matter, however—we are met at the outset, or very entrance to the alimentary canal, by the beginning of an interesting series of changes, all essential to the existence of the individual.

In the human animal, as in many others, where the starch of the vegetable kingdom is to be converted, we find this provided for by the ferment ptyalin, secreted from the salivary glands. The action of ptyalin is similar to that of the ferment of the pancreas, known as amylopsin—in fact, the latter provided for, or disposes of, much work that is left uncompleted by the former. The sweet taste of bread, noticed by those blessed with an abundant secretion of healthy saliva, is due to the transmutation of a portion of the cooked starch and dextrin, contained in the bread, to glucose.

The process of cooking, as is well known, brings about preliminary changes which greatly facilitate the action of the digestive ferments. Therefore, man, the "cooking animal," possesses advantages over the rest of living beings, because he pursues the most fruitful and economical methods of preparing food for conversion into assimilable forms.

The action of the salivary ferment being confined almost wholly to starchy matters, the portions of food consisting of proteids depend for their conversion into soluble, crystalloid or assimilable forms upon the action of the gastric and pancreatic secretions.

Considering the gastric secretion first, we find several distinct ferments present. One of these has the property of curdling milk, as we know from the use of rennet. Another, and a highly important one, pepsin, is devoted to the conversion of proteids, hence the term proteolytic action. In this class we include such bodies as albumin, syntonin, globulin, casein, fibrin, the albuminoids, etc. In taking up this subject of peptic digestion, we consider:

1. The reaction and properties of pepsin.
2. Its mode of action.
3. The products of peptic digestion.
4. Manufacture of commercial pepsin.
5. Pepsin testing.
6. Its application as a remedial agent.

Properties of Pepsin.—In a condition as pure as has been obtained, pepsin is shown to be a colloid, differing from albumin in its reaction with nitric acid; it does not give the xanthoproteic reaction (yellow on heating), is not precipitated by acetic acid and potassium ferrocyanide, nor by tannic acid, mercuric chloride, silver nitrate or iodine. When in solution its activity is destroyed by heat at temperature above 160° F.

With reference to its mode of action, it may be said that the changes produced in bodies with which it comes in contact are not yet very clearly understood. The energy displayed by ferments in general has been happily compared by Dr. Roberts as, in its nature, resembling the mode of motion displayed in the magnet, and which is capable of exciting a similar condition or molecular disturbance in other bodies subjected to its influence. The action of the peptic ferment is entirely superficial. This is the natural result of its being a colloid. It cannot permeate or infiltrate the substance to be acted upon, because albumin and foods con taining albumin, such as eggs, meat and many vegetable matters, are, when cooked, in the nature of a septum analogous to parchment-paper, into which the pepsin cannot readily penetrate or be absorbed; so that its work consists essentially in a wearing away of the surface. A better use should be made by the eater of the knowledge that the action of pepsin is superficial. Increase the surface to be acted upon by thorough mastication or other methods. The advantage of increasing the surface of food to be exposed to the digestive fluids by proper comminution has long been recognized; in fact, in what may be called pre-scientigc times. The grinding of grain, the chopping of meat, as in the case of sausages and hash, mashed potatoes, etc., are all a practical recognition of the necessity of dividing the food well, so as to enlarge the surface acted upon.

The difference in the amount dissolved under the opposite conditions supposed can be happily illustrated by the process of dissolving rock candy in water. In two separate portions of water stir respectively an ounce of this form of sugar in lumps and an equal amount in powder. The results convey an instructive lesson, applicable in ordinary nutrition in the use of digestive ferments and in testing them.

As stated further on, the products of gastric digestion are complex, consisting, in addition to undigested food, of syntonin, or acid albumin, and various peptones.

Considering the manufacture of pepsin, we have gradually advanced from its preparation in the crudest form, by scraping and drying the mucus from the inner lining membrane of the animal stomach, to product which are entirely soluble, nearly odorless permanent and extremely active. Various pepsins were here shown to illustrate the progress made in purity, digestive power freedom from ordor, and other sensible properties, while some of the tests showed that a degree of activity had been reached enabling 2000 parts of coagulated albumin to be digested by one part of dry pepsin. The superiority of the present processes of manufacture depends upon a previous solution of the pepsin in a feebly acid liquid, and its purification from contaminations, such as mucus by appropriate means. To Scheffer is due the credit of first practically developing this improved method of manufacture. An extract from minced stomachs, by 1 per cent hydrochloride acid, was here subjected to filtration, with the result of obtaining a turbid liquid. The lecturer now showed how admirably purified talc was adopted to securing a perfectly clear filtrate. Ordinary commercial talc contains iron, which, as will be demonstrated later on, seriously impairs the proteolytic power of the product, hence the importance of using only the purified article.

The separation of the crude pepsin, in the form of a magma, by salt in excess, was also shown.

The testing of pepsin was next demonstrated with an exhibit of appropriate apparatus for examinations on a large scale. Particular stress is to be laid on an accurate and uniform division of properly coagulated albumin. If forced through a sieve of 30 meshes to the linear inch with a spatula, it is obtained in a satisfactory state of comminution. On this point the pharmacopeia is not explicit, nor does the acidity of the test liquid therein specified approximate sufficiently to that of the gastric juice. The average amount of absolute hydrochloric acid should not be over 0.2 to 0.3 per cent, whereas the pharmacopeial percentage is 0.48.

In its application as a remedial agent prescribers have had to encounter many perplexing questions. What should be the dose of pepsin? When should it be administered? What are its incompatibles? These questions have to a large extent been solved. There is no doubt but that the prevalent doses of pepsin have been altogether too small and entirely disproportionate to the results expected. Owing to improved methods of testing pepsin, we are now in a position to correctly indicate the dosage.

The proper time for administering pepsin, under ordinary conditions, is from one to two hours after meals, when sufficient acid has been secreted to render it operative. If desirable to administer it immediately after meals it should be accompanied by lactic or hydrochloric acid.

Lactic acid is now generally conceded to be produced from food matters, as it is not a constant constituent of the gastric juice. Hydrochloric acid, on the contrary, is uniformly present in health, being derived from the chlorides, and absent only in certain diseased conditions. This dissociation of the chlorides takes place in the pyloric glands.

Concerning incompatibilities, quite a few of the commonly precribed remedies exert an inhibitory effect. Apart from any possible action on the mucous membrane during digestion, when a decided nervous tension may be said to exist, certain medicinal agents interfere with the action of pepsin itself. Thus, mercuric chloride was shown, in the test submitted, to have interfered materially with the peptic power. Also ferric chloride notably the decreased the amount of dissolved albumin.

Alkaline substances, such as the bicarbonates, in combination with pepsin, are immediately destructive to it in presence of water. If pepsin be first treated with sodium bicarbonate, and the solution afterward acidified, it will be found to have lost its digestive power.

From what has been said it is easy to infer the proper time for administration of medical agents known to have an inhibitory effect. They should be given only when gastric digestion is well under way or nearly completed.

Considering finally the pancreatic secretion we find it composed of a number of distinct ferments, active in an alkaline medium and capable of disposing of or converting not only amylaceous ahd albuminous food, but having also an action on fatty substances by which the latter are rendered easy of absorption.

Amylopsin promptly converts starch paste into glucose and thus supplements the action of the salivary ferments; trypsin, capable of acting upon proteids, ranks in importance with pepsin itself, and the products of its proteolytic action, peptones, deserve an especial consideration.

Peptic digestion usually results in an incomplete conversion of proteids into peptones. Syntonin, or acid-albumin (bearing about the same relation to albumin that dextrin does to starch), is almost always present in the final gastric issue, and the provision for its ultimate conversion to peptone exists in the presence and action of trypsin itself.

A very serviceable application of pancreatin is in the preparation of predigested foods—that is, foods capable of immediate assimilation, and in which the proteids and starchy matters are presented as peptones and glucose.

As an illustration, we may take peptonized milk, prepared by warming a pint of milk with 4 ounces of water, 5 grains of pan-

creatin and 20 grains of sodium bicarbonate, for half an hour, at a temperature of about 120° F.

The occurrence of a slight bitter taste offers a sufficient indication os the proper time to end the process. Pancreatin is preferable to pepsin for this purpose, because the latter always results in causing a degree of bitterness verging on the unpalatable.

Pancreatin should be administered shortly before a meal, if it is desired to obviate its possible contact with, or exposure to, the gastric juice. In contact with acid and pepsin—a condition it must at certain times encounter in the stomach—it is destroyed.

Peptones show interesting reactions. They are not coagulated by heat or by nitrate acid. The latter, however, when aided by heat, produces what is known as the xanthoproteic reaction. This color reaction is undoubtedly familiar to every one whose fingers have been stained by strong nitric acid, and where ammonia, the neutralizer, has hightened the effect.

A recent application of pepsin and pancreatin in the removal of diphtheritic and croupous membranes has resulted from the perforation attained in the quality of the digestive ferments.

The membranes or false tissues are dissolved, just as would be the case with meat or fibrin. Pancreatin in an alkaline solution, and pepsin in an acid liquid, both of liberal strength, have been used with marked success.—*Pharmaceutical Record.*

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## THE TREATMENT OF CATARRH AND FUNCTIONAL DISEASE OF THE STOMACH AND BOWELS.

Dr. W. W. Van Valzah read a paper with this title, before the New York Acedamy of Medicine, the object of which was to put forward a clinical method of dealing with catarrhal and some functional disorders of the digestive tract. The treatment consisted of a diet of animal food, especially of beef and beef-pulp. The best meat was the center of the round of a corn-fatted steer six years old, broiled over a charcoal fire and eaten with butter, salt and pepper. Dried beef, chopped beef, oysters, game and beef extract were sometimes of service in giving variety. It is sometimes necessary to begin treatment with the fresh beef-juice only; and often a little toast was useful for a short time at the outset. Lack of appetite was apt to mean either that bile or food still remained in the stomach, or that the patient was over-tired. When catarrh of the stomach was present, the diet for from one to three months should be such as insured rapid digestion. For such patients he was accustomed to recommend milk warm from the cow, drunk very slowly, or peptonized milk. Milk and beef together gave the best results of all if they were well digestod. As recovery became evident, peas, string-beans, and fruit could be added to the diet cautiously. However, the patient must always be careful of what he ate. The mucous membrane remained sensitive to the end of life.

Moreover, it was necessary to study everything about the patient's mode of life which could have a bearing on digestion. To stop the excessive fermentation of his food was of the most vital importance. Hot water before meals was useful to prepare the stomach wash out the bile, raise nervous tone, and increase the circulation. It favored downward peristalis, whereas cold water had just the opposite effect. It was to be drunk very slowly (twenty minutes to a glassful), at a temperature of 120°. When catarrh of the stomach was present it should be taken at least two hours before eating. Where the heart was weak or a hemorrhagic tendency existed, and during the menstruation, it should be lukewarm.

If there was nausea it only proved the need of washing the stomach out. Coffee and tea were to be limited. To rouse the energies in the morning the reader had got good results from one-sixteenth to one twentieth of a grain of strichnine given in hot coffee sweetened with saccharin and glycerin. Lemonade was of use in some cases; pepsin and pancreatin in others. Of medicines, the less

given on the whole, the better. When catarrh of the duodenum existed, hydrastis before meals was of some value. Salicine was very good to check fermentation. The bowels were to be kept open by occasional laxatives of various sorts, or by enemata of water, oil, or glycerin and oil. In salol he had been disappointed. A happy mental state must be induced in a patient before recovery was possible. Resting before and after meals and much sleep were to be insisted on. He sometimes kept his patients in bed all afternoon.

There was often a temporary loss of flesh and strength when this treatment was begun. The stopping of fermentation itself tended to weaken a patient for a time by the withdrawal of the stimulation previously caused by its morbid products. In catarrhal cases the condition might last for some months. It was important here that the patient should not become very tired at any time and that he should never eat when feeling wearied. However, during this time, examination of blood-corpuscles would show an increase in their number and color.

At intervals their would be attacks of billiousness with headache, pain, and much fermentation, followed by large evacuations containing mucus and bile. They represented a sort of house-cleaning process which the body carried out from time to time. At such times a short period of fasting was advisable.

Functional digestive disturbances did not need so radical a line of treatment. The diet should consist of three-fourths of animal food and one fourth of starchy food in the form toast, rice, or cracked wheat. Celery, cresses, or spinach might be chewed without swallowing the fiber.

If cases were at all recent, improvement would soon follow. In robust persons the mucous membrane in the bowels would remain unaltered by fermentation, but in the weakly very great changes are apt to occur in a short time. The carbonic-acid fermentation was the most harmful one. In all cases the blood, the urine, and the stools needed constant examination, both chemically and microscopically. The thing always to be ascertained was whether the patient was really taking to pieces and working up what he was swallowing.

Where patients could not afford, or had not time for, or lacked determination to persist in the radical method of treatment, other methods could be used; but in the old, inveterate cases he knew of nothing to equal a milk-and beef diet. Many mild cases would improve markedly if one solid meal were allowed at midday, with milk for breakfast and supper. But he would repeat that in every instance the physician owed it to himself to find out by direct examination what be came of the food ingested.

Dr. A. Caille believed that if digestive troubles were to be succesfully dealt with it was necessary to have at one's fingers' ends all the common causes or conditions of the disease in the stomach or elsewhere giving rise to dyspepsia. Such were simple acute indigestion from overeating, acute catarrh of the stomach, indigestion from bad teeth, or neglect in chewing, from age, from constipation, from anemia, or from dilatation of the stomach due to simple distension or to carcinoma obstructing the pylorus.

As to diet, he has succeeded best with a liberal diet, together with attention to other things. He would, of course, forbid such articles as cheese, pork, pastry, beans, and lobster; and he advised that fruits be stewed. Salt pickles and green salads seemed rather to aid a weak digestion than otherwise. He began his treatment by opening the bowels with calomel and podophyllin and then ordered muriatic acid, wine of pepsin, and hot water drunk before meals. In acid dyspepsia he used the dilute hydrochloric acid. When patient was hungry between meals he found that a piece of sweet chocolate would remove the sensation. When cases proved intractible he washed out the stomach with the siphon, using warm, milky alkaline water. But unless the washings brought away bile or mucus they were of no avail. They were very useful where dilatation existed, especially when combined with electricity and

combined with electricity and massage. Many cases of dyspepsia were due to the over-use of tobacco. Many of these patients should use no tobacco whatever.

Dr. Henry Schewig believed that dyspepsia was very frequentetly a constitutional thing and was often connected with catarrh of the upper air-passages. He had seen cases where no improvement in the digestion could be obtained until catarrhs elsewhere had been cured, and *vice versa.*

Dr. J. C. Peters remarked that he had come to rely on a dietetic treatment largely. He gave palatable and easily digested foods, but allowed scarcely more than a single article at each meal. With each meal he changed to a different article. This allowed for a wide range of choice, and yet the digestion, strength, and weight improved under it as rapidly as under any special regimen—more rapidly, in fact. The meals were given about four hours apart. Hydrastis and pulsatilla were each of use in appropriate cases; and sulphate of manganese was one of the best drugs he knew of to cause a healthy flow of bile. If we wished to give Carlsbad salts, sulphate of soda was the same thing, and far cheaper.—*N. Y. Med. Jour.*

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## AN UNUSUAL SEQUEL OF TYPHOID FEVER.

### Gangrene of Left Leg Extending to upper Third of Thigh; Amputation and Recovery.

BY R. P. LORING, M. D., NEWTON CENTER, MASS.

Miss P., æt. 17 years, a factory operative, entered the Newton Cottage Hospital on the second of last September, with a history of fever, malaise, etc., extending over a week. The hospital record for the next two weeks is that of continued fever, diarrhea, and abdominal tenderness, rose-spots, enlarged spleen and marked bronchitis. The temperature chart did not show the typical typhoid range of Wunderlich, but it was modified by antifebrin and certain malarial influences. The highest point, 105°, was reached on the evening of September 4. After September 13 defervescence commenced. The case continued to improve until September 19, when a striking change occurred. It was noticed that the left radial pulse had become weaker than the right, and about the same time excruciating pain, numbness, and loss of femoral pulsation commenced in the left leg. On the following morning a purple discoloration of the left foot was manifest. This deepened and extended until, in a week, the foot was mummified and the gangrene had reached the knee. In the meantime the left radial pulse had become quite indistinct.

As the case needed surgical care, it was removed from the medical service, and placed in the hands of the surgical staff.

By October 1, gangrene had reached the middle of the thigh anteriorly and the upper third posteriorly. No pulsation could be discovered either in the left or right femoral. The patient commenced to complain of pain and tenderness in the right leg. The right radial pulse could be easily discovered, but it was weak, and ranged from 120 to 140 per minute.

In a few days the line of demarkation commenced to show itself at about the upper third of the left thigh, higher posteriorly than anteriorly. The morning temperature was subnormal, and the pulse was rapid and feeble.

On October 12, the amputation was performed by Dr. Loring (assisted by the surgical staff) at the upper part of the thigh, just below the greater trochanter. There was no hemorrhage from the femoral, which with the profunda artery was filled with a firm thrombus as far as it could be traced. On the second day after, the temperature ran up to 102° and from that time until the present the patient has improved steadily. The stump healed rapidly, and in four weeks after amputation it was solidly united, and the patient moved around the ward in a hospital chair. Although the left radial pulse and right femoral pulsation could not be detected for nearly

four weeks, the left hand and arm and right leg preserved a good temperature, and never showed any signs of discoloration. Until recently the right leg has continued to be tender, and even now cannot be fully extended.

The case is unusual in several points. Gangrene as a sequel to typhoid fever is rare, but does occasionally occur. It may result from embolism following an ulcerative endecarditis, or, more probably, from arterial thrombus, the result of endarteritis. Mutter, Patry, Hayem, Trousseau. and others, give cases of gangrene of leg, hand, and one striking case in which gangrene of the ear, cheek and forehead resulted from plugging of the carotid artery. Martin gives a case in which a gangrenous cervix was removed. Spillman has called attention to gangrene of vagina and vulva in cases of typhoid fever.

J. H. Hutchinson ("Pepper's System of Medicine," vol. i. Article Typhoid Fever) quotes the researches of Barié as to the frequency of acute arteritis as a sequel of typhoid fever, with the following deductions: the affection is generally unilateral, and as likely to occur in mild as in severe cases; in order of frequency it attacks posterior tibial, femoral and dorsal artery of the foot; there are two varieties: 1. Acute obliterating arteritis, which is characterized by embryonal infiltration of all the tissue, loss of smoothness of the intima, followed by roughness of the same with secondary thrombus and gangrene. 2. Acute parietal arteritis, in which there is a milder grade of inflammation, without clot, which terminates without gangrene.

Since there was no evidence of any cardiac valvular lesion at any time in our case, we can safely exclude heart embolism as a cause.

So we seem to have had a striking example of the two forms of arteritis described by Barié.

1. The obliterating arteritis, causing occlusion by thrombus of the left femoral, and followed by gangrene of the almost entire limb.

2. The acute parietal arteritis, which caused for four weeks a partial occlusion of the left femoral arteries not resulting in thrombus and gangrene.—*Boston Med. and Surg. Jour.*

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## THE MEDICINAL TREATMENT OF MENSTRUAL DISORDERS.

The treatment of symptoms alone, without regard to the underlying condition, of which the symptoms are but the expression, is often looked upon as unscientific and unworthy of the consideration of the true physician. It is, indeed, unscientific, and were it possible always to discover and remove the cause it would be equally irrational and unjustifiable. But unfortunately we are unable always to act upon this principle. We cannot always discover the cause, and, knowing or suspecting it, we are often unable to remove it. This is noticeably so in regard to menstrual irregularities, especially as occurring in young women. The general practitioner is often asked to relieve cases of this nature in girls who would never submit to an examination or operation, preferring rather to suffer pain indefinitely than the shame of a physical investigation into the nature of their trouble. In such cases the physician is forced to try the effect of medicinal agents, groping, it may be, in the dark, before insisting upon an examination. Such being the case, it is well to learn what remedies have been found to be of occasional service in relieving symptoms of this nature which are not dependent upon actual organic disease.

In a very practical paper, read before the Connecticut Medical Society at its annual meeting in 1888, Dr. Gideon C. Segur, of Hartford, presents a general review of the subject, giving the results of his own experience, and quoting the opinions of several prominent gynecologists whom he has consulted. A brief resume of these opinions is all that can be presented here, the reader who may desire a more extended presentation of the subject being referred to the original paper.

Amenorrhea.—For this condition most of the authorities consulted recommended gen-

eral tonics, iron, arsenic and cod-liver oil. Permanganate of potassium, which was at one time so strongly recommended, does not seem to be in much favor, the objection to it being that it was too irritating to the stomach. Manganese was advised by some, and this is the remedy that the author has found to give the most satisfactory results. Most of the salts of this drug, however, cause so much gastric irritation that they cannot be used in most cases, but the binoxide seems to be an exception in this respect, Dr. Segur having used it in many cases with the happiest results and without seeing any disagreeable effects caused by it. A disagreeable feature of this remedy, in Dr. Mundé's experience, though apparently not in the author's, was its unreliability. It might afford relief at one time, and yet at another, even in the same case, and seemingly under the same conditions, it would fail utterly to bring on the menstrual flow. The lactate of manganese is also free from the irritating action upon the stomach that most of the other salts of the drug exert. Manganese has the reputation of being an abortifacient, hence some caution is necessary in its use as an emmenagogue. But the maximum dose employed by the author is six grains a day, and this is far below that which has been used to produce abortion.

Dysmenorrhea.—The opinions of the authorities consulted by the author concerning this symptom and its relief were most varied. Some thought no benefit could be obtained by any but operative measures, while others spoke hopefully of many remedies. Among those which seemed to have given most satisfaction to the writers were pulsatilla in three to five drop doses three times a day; cannabis indica, viburnum, camphor, belladonna and antipyrin. Dr. Segur found manganese to render good service in these cases also, in may instances. The binoxide was used in doses of six grains per diem. The application of heat, by means of the sitz bath or douche, was a useful adjuvant to the internal medication.

Menorrhagia.—For this condition the most efficient remedies were found to be ergot, hydrastis, digitalis, sulphuric acid, fluid extract of gossypium and gallic acid.

It is rather strange to find such a want of unanimity in the recommendations of these different authorities concerning the most efficacious medicinal agents for the relief of menstrual disorders. It is rather discouraging, al o, as the number of remedies vaunted as useful in any particular trouble is generally in inverse proportion to its amenability to treatment. Yet, notwithstanding the discouragements which those who attempt to treat menstrual disorders by drugs often encounter, the physician is many times powerless to treat them in any other way. Dr. Segur has, therefore, rendered good service in collecting the opinions of so many experienced gynecologists, and in giving the results of his own efforts to relieve sufferers of this class, and we hope that the paper will be useful to many who may perhaps be able occasionally to cure some of these disorders by one or other of the remedies mentioned by the author.—*Ed. Med. Rec.*

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## BACTERIOLOGY OF SNOW.

While the bacteriology of ice and hailstones has been studied with considerable success by Drs. Frankel, Bischoff, Mitchell, Prudden, Pumpley, Hills, Stoben, A. V. Poehl, Bordone Ufreduzzi, Bujwid, etc., that of snow has been up to the present almost wholly neglected. Even in Russia the subject has been touched only in a cursory way by Professor A. V. Poehl in a paper on the water-supply of St. Petersburg, in the *Vratch*, Nos. 8 and 9, 1884, p. 119. In it he points out: 1, that snow always contains viable microbes liquefying gelatine; 2, that, when snow falls, the first portions invariably contain greater numbers of bacteria than the subsequent ones (for example, 8,324 per 1 cubic centimeter of snow-water against 3,380 several hours later); 3, that, when snow lies on the ground, the superficial layers become richer in microbes (for example, 780 just after the fall, against 962

about three hours later). The fact is of interest from a sanitary point of view, as Dr. Poehl's researches furnish an additional proof that exposure of microbes to a low temperature does not destroy their vitality; at least, in certain species of micro-organisms. In many countries, such as Russia or Sweden, snow forms, so to speak, a natural ground or soil during several months of the year, receiving excrementious matter and every possible kind of refuse and filth. In spring, when the snow melts,it is imbibed by the soil, carrying with it all the polluting matter referred to. Hence an interesting question arises; Are such microbes as happen to be present in these matters in any way changed by their contact with the snow or not? This point can be determined only by further bacterioscopic researches. A contribution to the subject has just been published in the *Vratch*, No. 37, 1888, p. 727, by Dr. F. G. Ianovsky, of Kiev, who has examined bacterioscopically, under Professor K. G. Tritshel's guidance, a February snow in its purest state, collected both immediately and from one to three days after its fall. This observer has found: 1, that even when collected during its fall, snow is invaribly found to contain living bacteria in considerable numbers, varying from 34 to 463 per 1 cubic centimeter of snow-water; 2, that their number does not decrease from exposure of snow to low temperatures (–16° C.) for several days; 3, that, the following three species of microbes are met with constantly in great numbers: *a*, a large diplococcus composed of ovid cocci, endowed with energetic motion, and characterized by its rapidly liquefying jelly; test-tube culture on the third day forming greenish colonies along the track of the needle, assumes the shape of a funnel-like sac with a whitish flocculent deposit, while on the fifth the whole medium becomes liquefied, the precipitate sinking to the bottom; on agar a pale greyish-white streak is formed at the site of inoculation, on potato a fairly thick white film; *b*, small-sized cocci often arranged two and two, energetically mobile, and slowly growing on jelly without liquefying the medium, the growth proceeding slowly along the track of the needle in the shape of a narrow strip consisting of non-coalescing minute points of a yellow color, while on the surface of the colony is seen as a greyish-white, circular, slightly prominent patch with somewhat fringed edges; on agar the coccus forms a white streak with sinuous edges, on potato a grey film with brownish tint: *c*, a very large cocci liquefying jelly as late as three weeks after inoculation, and growing along the track of the needle in the form of a sharply-defined streak of a beautiful pink circular patch or "cap" on the surface; on agar the microbe forms a freely-spreading white film of a rosy tint, on potato a thick tallow-like, pink coat with sharply-defined fringed contours. 4. That the first two species (*a* and *b*) are also met with commonly in water of the river Dnepr, which flows through the town (*vide* Dr. Ianovsky's bacterioscopic examination of the water, published in the *Meditzinskoie Obozrenie*, Nos. 9 and 10, 1888, p. 975) while, the peculiar pink micrococcus seems to occur only in snow. 5. That generally speaking, the microbes liquefying jelly in falling or recently fallen snow are met with invariably in far greater numbers than in snow that has been on the ground for some time; this, in fact, very often contains only such bacteria as do not liquefy gelatine. 6. That the bacteria of snow originate partly from aqueous vapors which are transformed into snow, partly and chiefly from the air, that is, they are carried away by the snow-flakes on their passage through the atmosphere.—*Brit. Med. Jour.*

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## ALBUMINURIA OF PREGNANCY AND PUERPERAL ECLAMPSIA.

Dr. Lantos, of Buda Pesth, has recently made a series of observations on albuminuria of pregnancy in the wards of Professor von Kezmarsky. In over 18 per cent. of 70 pregnant women he found albumen in the urine, whilst in nearly 60 per cent. of 600 newly delivered women the urine was albuminous. Albuminuria was detected in over 70 per cent. of 268 primiparæ, and over 50 per cent. of

332 multiparæ. The percentage was distinctly lower in premature labor, and 50 per cent. lower in abortion cases. Out of 10 cases where albumen was abundant so that Dr. Lantos used the microscope, he found pus in 3 and casts in 5, but no foreign elements in the remainder. He examined the kidney in 39 cases where the patients had neither died from eclampsia nor from nephritis. In 15 of these cases the kidneys were very anemic, in 21 pale, and only in 3 full of blood. Amongst the local changes in other cases he found acute parenchymatous nephritis in 2 cases, acute hemorrhagic nephritis in 1 case, parenchymatous degeneration in 9 cases, and in 4 albuminous degeneration.

Dr. Lantos therefore concludes that, putting aside all evident and probable cases of nephritis in pregnant women, albuminuria is not rare in pregnancy, and very common after parturition. He refers the phenomenon to reflex irritation of the vasomotor nerves of the renal vessels; it has no pathological significance, and, in conjunction with other symptoms, is a valuable diagnostic sign of pregnancy. Out of 14,815 labors observed in the course of fifteen years, he noted 53 cases (0.36 per cent.) of puerperal eclampsia, a ratio of 278 to 1. Over 78 per cent. out of 42 eclamptic cases occurred in primiparæ, over 21 per cent. in multiparæ; 15 out of the entire 53 died.

Dr. Lantos thinks that the rate of mortality is increased when instruments are used, and as the convulsions often do not cease after delivery, he thinks that the forceps should not be used unless there be strong indications. Convalescence is much prolonged after eclampsia. In 23 of the eclampsia cases the urine was examined; in 21 it was albuminous, casts being found in 4. At the necropsies of fatal cases of convulsion, Dr. Lantos found constant changes in the brain, but only once acute, though frequently chonic, renal changes. Like Osthoff, he traces puer peral eclampsia to violent reflex vasomotor disturbance, and classes it as acute peripheral epilepsy. The original monograph, well worth the attention of obstetricians, is to be found in the *Arch. f. Gyn.*, vol. xxxii, part 3.—*Br. Med. Jour.*

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## A NEW DEODORANT.

Bromine has for a long time been recognized as being valuable in the treatment of gangrene and foul-smelling ulcers, but until recently its merits as an effectual and cheap deodorant have not been appreciated. It was brought into prominence a few months ago by Mr. Martin, the chemist of the Health Department of this city, who suggested its use upon the earth thrown up in laying the electric subways. As it is a by-product obtained in the manufacture of salt and is not used extensively in the arts, it is sold at a very reasonable price—about seventy cents per pound. It has the property of precipitating the hydrocarbons of illuminating gas, and thus can be used to deodorize the earth exposed in excavations in the vicinity of gas-mains. More valuable than this is its effect upon decomposing organic bodies, which it renders completely inoffensive. This property renders it particularly valuable for use in stables, privy-vaults, urinals, cess-pools, or in any place which may contain foul smelling organic matters. It is soluble in about thirty-three parts of water, but a solution of this strength is not advisable, as there is a constant escape from it of the vapor of bromine, which is very irritating to the eyes and air-passages, and which may even attack wood and metals. For ordinary purposes it is used in solutions containing one part by weight to about eight hundred of water. In this strength it may be used freely without its affecting anything which it may touch. A few gallons used daily will remove all ammoniacal odors from stables, or a few quarts will thoroughly deodorize the entire plumbing system of an ordinary house. It also might be used with advantage upon ordinary house garbage, which usually becomes offensive so speedily in warm weather. There would appear to be scarcely any limit to its usefulness in this branch of sanitary science, and it will, as its merits are better known,

undoubtedly be adopted universally as a substitute for the deodorants now in use, which usually act by substituting one unpleasant odor for another. The only drawback in its use lies in the fact that the undiluted bromine is strongly corrosive, and, if it touches the skin, causes a painful burn. Where it is used in large quantities this can be obviated by opening the bottle or, what is simpler, breaking it under water. As its use becomes more extended it will undoubtedly be put up in pearls or tubes containing only as much as would be needed at one time in the average household.—*N. Y. Med. Jour.*

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## A SMALL POINT WORTH KNOWING.

(L. L. Von Wedekind, M. D., Senior of Staff, Chambers Street Hospital, New York.) By simply pressing on the supraorbital notches with a steadily increasing force, you may, with a certainty of success, detect a malingerer, bring an unconscious alcoholic to his senses, and thus differentiate on the spot between alcoholic and other comas; cause cessation of hysterical convulsions, and in many instances quiet violent alcoholic delirium.

The best way of applying this test is: When the patient is in the recumbent position, the physician, standing at the head of the cot, or kneeling when the patient is on the ground, fixes the tips of the thumbs over the supraorbital notches, as above described, never minding the occasional yell or struggle, pressing steadily, gradually increasing the force, and in half a minute or a minute the result is accomplished.

In a varied and extensive ambulance service, extending over eight months' continuance, I have applied this test so frequently and, as my statistics will show, with such marked and remarkable success, that I feel constrained to publish my results.

To the physician in private practice it may be of comparatively little use; but to such as are in hospital practice, especially in the ambulance department, or to those employed in the army or navy, or elsewhere where large bodies of men are at work, and where malingering and alcoholism are common, it will be of great value.

For let it be remembered that if the application of the test fail in obtaining the desired result, the physician may rest assured there is something more than simple alcoholism, or those other forms mentioned in the case. And so, on the other hand, what a comfort it is for him to know that, after the heroic and protracted efforts of the police and other parties have failed, he can step in and in a moment have the patient on his feet.

During my ambulance service at the hospital, the following particulars may be mentioned: Out of 1620 ambulance calls, 213 were to alcoholics, 26 to malingerers, 18 to hysteria cases, and 28 to delirium tremens.

Of the 213 above mentioned, 137 were comatose, the police and friends being utterly unable to arouse them, and this treatment brought 128 of the 137 to consciousness. Of the cases where no result was obtained, 5 were, besides alcoholism, suffering from cerebral concussion, 2 fracture of the base of the skull, 1 uremic coma and 1 syncope from valvular heart trouble.

In cases of hysteria I had absolute success; no one case failed to respond, and the same with malingerers. Nine of the delirium tremens quieted down and spoke rationally; in the remainder I had varying degrees of success, some becoming more quiet, while in others but little change was noticed.

I have tried it in forty-seven cases where no result was obtained, and where something more serious than alcoholism or malingering was suspected.

Of these cases 26 were cerebral concussion; 9 fracture of the base of the skull (diagnosis confirmed at autopsy); 4 cerebral hemorrhage; 6 uremic coma, and 2 simple depressed fracture of the skull. These cases are mentioned as proof of what is above stated. Where no result is obtained, there you may look for some intracranial lesion, or other cause of coma.—*Med. Record.*

## TEN GOOD THINGS TO KNOW.

1. That milk which is turned or changed may be sweetened and rendered fit for use again by stirring in a little soda.

2. That salt will curdle new milk; hence, in preparing milk porridge, gravies, etc., the salt should not be added until the dish is prepared.

3. That fresh meat, after beginning to sour, will sweeten if placed out of doors in the cool of night.

4. That clear boiling water will remove tea stains and many fruit stains. Pour the water through the stain, and thus prevent it spreading over the fabric.

5. That ripe tomatoes will remove ink and other stains from white cloth; also from the hands.

6. That a teaspoonful of turpentine boiled with white clothes will aid in the whitening process.

7. That boiled starch is much improved by the addition of a little sperm salt or gum arabic dissolved.

8. That beeswax and salt will make rusty flat-irons as clean and smooth as glass. Tie a lump of wax in a rag and keep it for that purpose. When the irons are hot, rub them first with the wax rag, then scour with a paper or cloth sprinkled with salt.

9. That blue ointment and kerosene, mixed in equal proportions and applied to the bedsteads, is an unfailing bedbug remedy, as a coat of whitewash is for the walls of a log house.

10. That kerosene will soften boots or shoes that have been hardened by water and render them as pliable as new.—*Phar. Rec.*

## THE DURATION OF LIFE IN CANCER OF THE BREAST.

In a recent number of the *Lancet* we find that considerable discrepancies are apparent in the results arrived at by different investigators. Sir Astley Cooper says: "The progress of this complaint is in some persons extremely slow. In general, however, it destroys life in about four years from the commencement." Paget maintains that the average duration of life, from the patient's first observations of the disease, is a little more than four years. Gross gives 38.5 months as a duration of life for those operated on, and 28.6 months for those in whom the disease has run its course without operative interference. His statistics were obtained from combining the results of more than a dozen surgeons, for the most part German. He did not expressly state that in all his cases the duration of life is dated from the time when the disease was first noticed by the patient. W. Roger Williams, F.R.C.S., believes that from this cause, or some other, Gross underestimates the total duration of life in this disease, and that the experience of English surgeons will be found more in accord with his own figures. The average duration of life in cases of cancer affecting the breast or lower lip in 60.7 months; the rectum, 27 months; the uterus, 24 months; the tongue, 18 months.—*N. Y. Med. Jour.*

A Contribution to the Therapy of Bacillary Phthisis.—In such a hopeless disease as phthisis in any form, no reasonable mode of treatment should be neglected when all the ordinary methods fail. Of late it has been the fashion to suggest new plans of treatment in this disease, but few have been, even in a small degree successful, if perhaps we except creasote as more recently prescribed.

Dr. Louis Weigert in a communication to the *Internationale Klinische Rundschau*, No. 51, gives his principle of treating bacillary phthisis, and even if it is not new, it is worthy of consideration. Heretofore in treating tuberculous cases the trouble has been that the bacilli withstand the antiparasitic means much better than the animal cells, *i.e.*, the treatment kills the patient before it destroys the bacilli; but it has been shown that the tubercle bacilli are particularly sensitive to heat. They flourished at 99° F., still less at 100.8° F., they die in a month if exposed to a temperature of 122° F. and heated to 212° F. they die at once. Now if man can

inhale air, even if not hot enough to kill these bacilli at least to prevent their increase much will be gained. From this point Weigert makes the following statements:

1. Former experimenters were correct in statements as to the above given temperatures.

2. In the case of tubercle bacilli it is possible to weaken their power of development and growth by repeated sterilisations.

3. Dry air heated to 302°–356° F. can be inhaled by man several hours, and these inhalations only cause a quickening of the pulse in the first few minutes, an increase in frequency of the respiration with deepened inspiration and an increase of temperature of 0.9°–1.8° F. while the expired air is only 113° F. After an hour the temperature returns to the normal and the patient is not affected. Weigert has not been able to find out the temperature of the air within the alveoli during these inhalations and it is not easy to see how even a German can do this.

He has already treated a large number and although he cannot say in what stage of the disease the virulence of the bacilli is weakened, still he has, according to his statement, abated most of the symptoms and put the patients in the way of a cure. His apparatus, which is described with illustrations, consists of a stand much like a music stand with rack rack above for holding a book if the patient desires to read during the inhalations. To this stand is attached a Bunsen burner over which is a cylinder in which the air is warmed and to which a pipe and mouth-piece are attatched.

The following is suggested by the author:

1. At first the inhalations should last a half hour twice a day, but should be increased as soon as possible to two hours twice a day. This is different in different patients. They should never last long enough to tire the patient.

2. The patient should take at first deep and later forced inspirations.

3. The temperature should begin with 212° F. and can, with most patients, be increased in a few days to 482° F. This may be exactly measured by the thermometer near the mouth-piece. As the air is slightly cooled in the pipe after passing the thermometer it is not likely that the patient gets it at 482° F.

4. In case of hemorrhage the inhalations must cease.

5. In hemoptysis and pleuritic complications the inhalations may be kept up with shallow inspirations.

6. After inhaling, the patient should remain a half hour lying down and then in favorable weather he should go out. Of course, antipyretics and other treatment may be used at the same time if necessary.

Weigert's whole plan and the results are very rose-colored. Still anything is worth trying in such a hopeless disease and where all means fail it would be no difficult matter to make a simple inhaling apparatus after the pattern of the one described.—*Md. Med. Jour.*

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Treatment of Boils in the Ear.—(Grosch, *Berlin Kl. Woch*, *Memorabilien.*) Furunculosis of the ear is an infectious disease occurring on one or more regions of the external ear passage. It is not a dangerous disease, but excessively painful, so that the patient is incapacitated for days or weeks from his daily occupation. Lately cocaine in five per cent to twenty per cent solutions has been recommended as an anesthetic, along with the former remedies, such as morphine, leeches, warm and cold cataplasms. Grosch has obtained but meager results from any one of these anesthetics—even cocaine.

Remembering the causal indication, he tried such disinfectants as carbolized glycerine, bichloride of mercury in alcohol and one per cent solution of sulphide of potash, with but little effect. He is opposed to incisions because he has noticed, as assistant in a large ear clinic, that in spite of cocaine they are excessively painful, that the exuding pus often gives rise to furuncles in other places, that when the furuncle is seated deeply the incisions can not be effectually made, and cause only useless, unnecessary pain.

Accident led him to discover a remedy

which was of the greatest service in all such cases—the so-called liquor Burowi. This should be diluted with four times its bulk of water. Whether the furuncle fluctuates or not, the ear should be filled with the mixture every hour, and closed with absorbent cotton. In all cases, even in diffuse furunculosis of both ears, the result was highly satisfactory. In four hours at the most the pain was lessened so as to be bearable; in eight hours there was no pain. In from two to six days the patient was well. In no case did Grosch see new furuncles or granulations appear. Infiltrated, hard boils disappeared without suppurating; those cases which appeared before him with beginning suppuration healed by cessation and absorption.

The writer explains the effects of this remedy as follows: The fluid possesses the property of causing a swelling and sponginess of the tissues without solution of continuity. This flaccidity relieves pain by relieving the pressure on the nerve endings. The liquor penetrates sufficiently deep into the tissues to act as a strong disinfectant, and to kill the germs of the disease.

[Liquor Burowi is much esteemed on the Continent as a cold application in various inflammatory affections, such as acute eczema, when the skin will tolerate no kind of salve. It is made as follows:

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| Alumin crud., - | 70 pts. |
| Dissolve in aq. dest., | 280 pts. |
| Plumbi acet. crys., - | 28 pts. |
| Dissolve in aq. dest., | 280 pts. |

Mix, filter and dilute to 800 pints. Keep in tightly corked bottles.—I. N. Bloom in *Amer. Prac. and News.*

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The Disinfection of Physician's Clothing.—A simple, ready method is needed—and an inexpensive one as well. The man busy in practice will shirk cumbrous devices. If he has but to hang his suit on a hook, touch a light to a dash of alcohol, and close a door, he is altogether likely to carry out his good resolutions, and sterilize his clothing after each exposure. The galvanized iron closet devised by Dr. Chas. Jewett, which I have used for some months with much satisfaction, with these indications. Certain modifications suggested by experience are added in this description. Few houses have spare closets which can be kept empty for this purpose, or so placed that fumes escaping would not greatly inconvenience the occupants of the remainder of the floor. But the metal box may be placed in any desired position, as in the yard or under the front steps. The disinfectant used is sulphur. The employment of dry heat at 230° Farhenheit for one or two hours is impracticable by any simple method which does not require watching. Steam saturates, and might cause shrinking. Chlorine acts only in the presence of moisture, under which condition the colors and texture of fabrics will be affected. Sulphurous acid gas is efficient, inexpensive, and easily produced. It is endorsed by the writers on hygiene, by the national and local health boards, and by the Committee on Disinfectants of the American Public Health Association in their exhaustive report (Dr. Sternberg, Chairman, in *Phil. Med. News*).

Half an ounce is all that is required by the cubic air space of this closet, but I usually throw half a pound into the bowel to ensure the most complete saturation, and to allow of some leakage. An ounce of alcohol ignites the sulphur readily. More than a small quantity of alcohol should not be used, for fear of the flames leaping high—although danger of igniting the clothes is obviated by the screen.

The closet should be six feet high, two feet wide, and eighteen inches deep. A shorter closet brings the clothing down on the screen. The screen is made of ordinary mosquito wire gauze. The openings are kept as small as they conveniently may be. Should the upper door not close tightly, a piece of cloth larger than the door can be placed on its inner side and lapped back over its edges, although this has not been found at all necessary in practice. Four hours' exposure of the clothing in this closet is probably sufficient, but the suit may well be hung up in the evening and left over night. It may be

worn again in the morning without needing to be aired; in such cases the wearer scents sulphur faintly for some hours, but no one else is conscious of the odor. The cost of this closet is about $13.—Dr. Dickinson, in Brooklyn *Med. Jour.*

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THE MORTALITY OF PNEUMONIA. — Dr. William Osler (*Univ. Med. Mag.*, Philadelphia, No. 2) points out that hospital statistics do not warrant the assertion that there has been any marked increase in the mortality from pneumonia of late years, as asserted by some, although the census returns of the United States favor the latter statement. But, as Dr. Billings points out, the comparison with preceding years is inaccurate, since the data were very imperfect and unreliable. At the Pennsylvania Hospital, with a tatal of 704 cases since 1845, the mortality has been 29.1, a rate sometimes much exceeded, as in 1875 to 1877, when it was 36.2, and sometimes quite as much lessened, as in 1845–47, when it was only 16 per cent. In the Boston City Hospital for thirteen years the mortality was also 29.1 per cent. Dr. Osler shows that in private practice the rate is lower than in hospitals, and points out that the increase of pauper populations in large cities is doubtless responsible in some measure for this diversity. Dr. Hartshorne's statement that the "mortality of pneumonia to day is, under similar circumstances, more than twice as great as it was forty years ago," is not thus borne out; and Dr. Osler shows that in many cases pneumonia is absolutely uninfluenced by treatment. Yet those cases which do call for treatment are precisely those in which our methods are most futile. Post-mortem records show how seldom a simple pneumonia, apart from chronic disease of other organs, is a cause of death, but Dr. Osler thinks that it may be useful to divide the fatal cases into three groups: "1. Those in which the death has resulted from such complications as gangrene, meningitis, and ulcerative endocarditis —conditions at present beyond our art to remedy. 2. Cases in which death has resulted from mechanical causes—over distension and paralysis of the right heart. 3. The large group in which death has been due to failure of the general powers under the influence of the high fever, or of the specific poison, or of both combined." He has often asked himself why death occurred in some cases, and had been struck with the distended right heart and systemic veins in the young vigorous subjects that sometimes succumb. This seemed to indicate that the heart had failed in over-distension, and he was determined "not to let such cases die without a copious venesection." For ten years he has practiced free bleeding (twenty to twenty five ounces) in adults, and has seen but one case recover out of twelve or fifteen. The cases of bleeding in the late stage were uniformly fatal, as if the conditions present in pneumonia are something more than mechanical.—*Lon. Lan.*

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A NEW WATER SUPPLY FOR LIVERPOOL.—It is greatly to the credit of Liverpool that they have grappled with the problem of providing an adequate supply of pure soft water for the use of the inhabitants of that thriving and populous sea-port. It is some years since the idea was first formulated of deriving water from the Welsh mountains, and the works are now practically complete. A whole valley has been dammed up and converted into an artificial lake, capable of holding some twelve hundred million gallons of water. A day or two since, the outlets were finally sealed, and the waters allowed to accumulate, submerging a hamlet and a church. The water is conveyed to Liverpool by means of an aqueduct 68 miles in length, beside which even the famous Claudian aqueduct with its 32 miles of conduit must give away. It is estimated that a daily supply may be guaranteed of forty million gallons a day, and the gift is enhanced by the fact that the water will be pure and soft. Perhaps one of these days Londoners may think it worth their while to discard Thames water for a supply from the same inexhaustible source.—*Med. Press and Circular.*

Dr. A. S. Knight (*Lancet Clinic*) says of Florida: Taking under consideration the changeable climate, excess of ozone and moisture, and lowness of a flat country abounding in marshes, lakes and swamps, and that want of invigoration and appetite arising from the vegetable diet demanded by the langour-inducing climate, one would not reasonably suppose this particular place to add any curative effect in tuberculosis.

The following idea prevails with the more intelligent natives, including the local profession, that while the natives are very nearly exempt from the disease, visitors in any and all stages of the disease are hurried on to premature graves; which is verified by the flourishing business of the embalmers. The latter I have reason to believe from observation, but in contradiction to the former will say that I found several well developed cases in those born and reared in the State, one of which died during my short stay in the second year of his sickness.

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Novel Case of Drowning.—It is reported that a man well under the influence of alcoholic liquor recently went into a saloon in Trenton, N. J., and called for a glass of beer, which was given him on a table at which he was seated. He was soon observed to be leaning forward upon the table as if in a sleep or stupor. "When the barkeeper tried to arouse him, half an hour later, it was found that he was dead, his nose being immersed in the liquor in such a way that respiration was completely stopped." Many cases have been reported of persons having been drowned in but little depth of water, but this is the first case reported of a man drowning himself in a glass of beer.—*Jour. Am. Ass'n.*

[The well-known effect of "Jersey Lightning" is amply sufficient to account for the result in this case. A man must be pretty thoroughly poisoned when his vital force is so reduced that his lips will not part in his effort to breathe when his nose is closed.]

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Creoline.—Creoline does not appear to be free from all danger in use, as had been claimed. Behrings, in *Deutsch. Militararzt Zeitsch.*, 1888, H. 8, reports that he has found it not to be so; and several others have done the same. Hiller says that its apparent harmlessness depends upon its slight solubility in water; that in a water mixture it is rather in the state of very fine division or emulsion than in a true solution. Rosni, in *Therapeut. Monatsheft*, 1888, 480, reports a case of death, with the symptoms of carbolic acid poisoning, which occurred where a woman had several times used a 2 per cent emulsion of creoline as a uterine douche.—*Bost. Med. and Surg. Jour.*

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Seborrhea Sicca.—How deforming this malady may become was shown by a case before Shoemaker's clinic. It was that of an old woman whose forehead and cheeks were disfigured by a mass of the dried and blackened secretion; so that, at a short distance, she looked as if she had on a black dotted veil. The scales were softened by a starch poultice and removed, both by scraping and by the application of tinctura saponis viridis. The parts were regularly mopped with cotton saturated with equal parts of boric acid and glycerine; and, internally, the patient was given gtt. v–x of the fluid extract of hydrastis ter die. The patient is improving rapidly.—*Medical Times.*

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Photography of the Male Bladder.—We hear that Mr. Hurry Fenwick, and Mr. Pearson Cooper, of the London Camera Club, have been working for some considerable time at photography of the human bladder. Various obstacles were in turn recognized and overcome, and they have now so far perfected their vesical camera and method as to obtain good negatives of the interior of "dummy" and dead bladders. They hope before very long to describe a method of recording the appearances and progress of diseases of the living bladder. The negatives are taken *per urethram* through a tube of 23 French caliber (11 or 12 English).

### A Liquid Soap.

Dr. J. S. Prout, a well-known ophthalmologist of Brooklyn, uses a soap, (*N. Y. Med. Jour.*,) which, when "poured on the moistened hands, attacks all matter out of place more quickly and thoroughly than ordinary soap, and leaves the skin soft and clean." He dissolves three ounces of white castile soap in one pint of alcohol and then adds two ounces of glycerine. To this may be added any essential oil or oils that may be desired. It should be kept in a bottle or jar, fitted with a stop-cock.

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Dr. Hall reports a case in the *Peoria Medical Monthly* in which a delicate girl 11 years of age developed pneumonia complicated by persistent vomiting. The patient's strength was maintained for a few days by the use of enemas, but the rectum became sensitive and rejected everything thrown into it. The doctor conceived the novel idea of having the mother plug, with her thumb, the child's anus, so that the enemas might be retained. The plan worked admirably and the child recovered.

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At a recent meeting of the Bristol, Eng. Medico-Chirurgical Society, a man was exhibited, who had worn a tracheotomy tube for 36 years. In the Review, of March 24, 1888, is a review of a case in which a woman had worn a tracheotomy tube for four years and a half. Both cases were originally reported in the *Brit. Med. Jour.*

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*The Medical World* recommends distilled tar water as a powerful hemostatic, arresting bleeding as effectually as hemamelis. About a wine-glassful to be taken in 24 hours, in pulmonary, uterine, and renal hemorrhage.

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Dr. H. Montague, of Detroit, says he has made an improved Wunshurst static electrical machine which "works with absolute certainty and regularity in all weathers."

Dr. C. L. Dana, of New York, says he has seen a case in which death was produced by deep exploratory punctures in the brain.

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Substitution by Druggists of Medicines Prescribed.—If there is a practice among any reputable pharmacists or druggists that should be denounced, it is that of substituting the manufacture of some other druggist for that which is prescribed. It is none of the business of pharmacist or apothecary to dictate to the doctor what he should prescribe. If the honest apothecary has not the preparation the doctor has prescribed, and can not supply it, it is simply and plainly his duty to say so, and not undertake to furnish a substitute without free consultation with and the full consent of the doctor.

What would the apothecary think of his stationery dealer if he were to send him a box of "Falcon pens" when he had ordered a box of "Spencerian pens?" Is it honest in the stationer to undertake to palm off the brand not ordered? And if the stationer were to establish it as the principle of his house to thus "work off" his stock on the pharmacist, would not that pharmacist soon say that he would discontinue dealing with that stationer, and furthermore, expose him to his friends?

If this principle is regarded as dishonorable in so trivial a matter as the selection of a pen, it should certainly be held as more disreputable for the pharmacist to substitute a medicine not ordered for the one that is prescribed.

The apothecary concedes the whole thing when he says he supplies only Squibb's chloroform when this preparation is ordered. If he is honest in filling the prescription of the doctor strictly when that article is prescribed, why should he not be equally as honest when the preparations of Wm. Warner & Co., Dios Chemical Co., Fairchild Bros. & Foster, Battle, Crittenton, McArthur Hypohosphite Co., Lambert, Rumford, Fellows, etc., are prescribed?

Is it not dishonorable in principle to do otherwise?

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## REPORT ON PROGRESS.

### CURRENT LITERATURE ON GYNECOLOGY WITH ANNOTATIONS.

BY Y. H. BOND, M.D.

#### LAPAROTOMY FOR ASCITES.

Mr. Wells, in his work on "Diseases of the Ovaries" published in 1865,recorded a case of tubercular peritonitis in which recovery followed an exploratory laparotomy with removal of effusion and cleansing of the peritoneum. In writing of the case in 1885, he says: "This patient is still quite well,23 years after the operation, although the whole of the peritoneum was seen to be studded with myriads of tubercles, and the colon and omentum, with coils of small intestine were bound down and nodulated by tubercle."

My attention was attracted to this subject by the results obtained in an exploratory laparotomy which I performed during the last summer. The patient, a woman, 37 years of age, was placed under my care with the view to an ovariotomy. Her abdomen was very much distended, and whilst the presence of a tumor in the lower portion of the abdomen could be made out, ascitic accumulation was likewise diagnosed, and the probable cancerous nature of the tumor thereby indicated. In the operation after the ascitic fluid had been permitted to flow off, the cancerous nature of the tumor was confirmed and it was further established that the tumor had such connections with the bladder and vessels of the pelvis that its removal could not be safely attempted—in fact the mass in many places seemed so friable that the slightest manipulation would have in all probability caused it to break down with possible fatal hemorrhage. I washed out the abdominal cavity with water that had cooled from the boiling point to that of blood heat, then placing in a rubber drainage tube, closed the abdominal wound; the patient made a good recovery from the operation, and much to my surprise the discharge from the drainage tube soon ceased, permitting its removal and strange to say no appreciable astitic accumulation occurred for months thereafter. When I last heard from the patient a short time since it was supposed that the fluid was beginning to reaccumulate. The significant query is, what was the power exerted by the operation in staying the abdominal effusion? I am satisfied that there is an important practical lesson to be learned in this connection, and the literature now appearing upon the subject points to an appreciation of it at no distant day.

In a paper read before the Kentucky State Medical Society, July 12, 1888, Dr. McMurty of Danville, upon the subject of "The Treatment of Peritonitis by Abdominal Section" gives some interesting and striking cases which occurred in his own practice. Among other cases referred to is one reported by Dr. Vanderwarker of Syracuse, N.Y., who says "The peritoneum was rolled out and found to be studded with a great number of tubercles, from the size of a millet-seed to that of a buck-shot—some of them white, others yellow. The intestines were everywhere beset with them. The transverse colon, thickened and covered with tubercles, was adherent to the peritoneum from side to side, thus enclosing the cavity and giving to the fluid the appearance of being confined within the walls of a cyst." The operation was done on June 11, 1886, and writing of the case in June, '87,

one year afterward, he says: "Before the sutures were removed there was a great change in her appearance, her demand for food greatly increased, and color returned to her cheeks. In three weeks she gained about ten pounds of flesh. She went on gaining, and in three months was a strong, robust woman, and at this time (June, 1887) remains so." I will add that in this case, too, a conditional diagnosis of ovarian cyst was made. Mr. Greig Smith makes this unqualified statement, viz.: "In many cases encysted dropsy of the peritoneum cannot be diagnosed from ovarian cyst."

At the Congress of German Surgeons last autumn, Kummel, of Hamburg, reported thirty cases of tubercular peritonitis treated by abdominal section, and other members present in discussing the report added six more cases, making thirty-six cases with thirty recoveries. In some of these cases the peritoneum was treated with tincture of iodide in hot water; some by a solution of bichloride of mercury, 1 to 5000; and others by dusting iodoform over the peritoneal surface. It seemed to be a matter of indifference how the peritoneum was treated so it was opened, evacuated, and cleansed. A number of cases are reported by American and British surgeons. Greig Smith, commenting upon the cure of tubercular peritonitis by abdominal section, says: "It must be conceded that this is an exceedingly surprising fact. * * * It may be, and has been, said of these results, that the disease, in these cases was probably not tubercular at all; but more than one case has shown not only the true structure of miliary tubercle, but the tubercular bacillus itself was present." No explanation yet made of the results obtained in these cases is satisfactory.

Following this contribution is a most interesting article in the January number of the *Amer. Jour. of Obstet.*, by Dr. T. A. Ashby, of Baltimore. This article is so well written and so clearly defines the author's position, that any attempt to condense the communication would most likely be at the expense of a clear exposition of the subject. I therefore, quote it verbatim.

"The accumulation of ascitic fluid within the abdominal cavity is of such frequent occurrence that the clinical study of this condition must at times claim the serious attention of the gynecologist. Ascites exists in deference to a number of causative influences. Its treatment must, therefore, be undertaken out of respect to conditions which may or may not come within the scope of the diagnostician's knowledge.

By far the most frequently recognized source of abdominal dropsy is obstruction of the portal circulation, induced by structural changes in the liver, leading to compression of the portal capillaries and consequent transudation of the watery elements of the blood through the obstructed vessel-walls. Cirrhosis, therefore, ranks as the most potent cause of ascites. Next to this influence, any other condition which induces a compression or destruction of the portal vessels will cause the same result, such for example, as syphilitic and cancerous degenerations of the hepatic tissues. But apart from the conditions of the liver, which are by far the most frequent causes of ascitic accumulation, there are other influences at work which may cause either slow or rapid accumulations of fluid within the abdominal cavity, and which call for an early interpretation and prompt removal. Omitting from present consideration those conditions of the heart, spleen, and kidneys which may produce ascites, I shall consider only those conditions of the pelvic organs which have been recognized as having this influence. It may be stated as an axiom that abdominal dropsy is the result of an obstructed circulation, except only in those cases in which it results in connection with a serous inflammation. Thus effusions occur in peritonitis, whether acute or chronic, cancerous or tuberculous, and are not directly dependent upon mechanical causes. The mechanical influence at work in the production of the effusion should be sought for in all cases in which ascites cannot be referred to inflammatory or structural tissue changes.

The frequency with which ascites occurs in connection with ovarian cystomata, fibroid

growths and other pathological changes in the pelvic cavity invests the consideration of this subject with an important bearing upon the work of the gynecologist. The field of scientific work is constantly widening, and in the grasp of this condition of ascites, as of many others, the physician, the surgeon and the gynecologist meet upon a common plane. To the elucidation of this subject each branch of the science may bring its offerings, and from the whole we may construct a practical rule of work which will guide each specialist in the comprehension of the subject presented to him. The physician may claim that the symptom under discussion is the result of such structural changes in well-known organs, as the liver, spleen, heart or kidneys, as to place the treatment of this class of patients under a strictly therapeutical regime. The surgeon may, with equal emphasis, assert that the association of abdominal dropsy with intra abdominal growths is an indication of the uselessness of drugs and a sufficient plea for the use of the knife. The gynecologist, whose special province is the pelvic region and female pelvic organs, has learned by practical experience the frequent association of abdominal dropsy with ovarian cysts, fibroids, and other structural changes in the generative apparatus, and must equally approach the treatment of this symptom from a surgical standpoint. It will, therefore, become a nice question to determine when to discontinue an almost profitless therapy and when to call into play the resources of surgery. Were the causative influences apparent in every case and a strict diagnosis possible, the assignment of these cases to the physician or to the surgeon would occur after an equitable method.

The successful management of so grave a symptom as ascites wholly depends upon an ability to ascertain and to remove the cause. The various influences at work must receive careful attention. Medication may be tried and be found wanting; palliation by paracentesis may temporarily succeed, and in this wise aid in restoring comfort, yet the great cause may continue its operation, the medical attendant having no satisfactory knowledge as to what this causative influence is. Eliminating from the history of the case the most frequent causative conditions, such as cirrhosis, heart and kidney changes, the physician will now and then approach cases in which the origin of the effusion is involved in profound doubt. The symptom exists, but nothing within reach by manual manipulation or physicial signs can reveal any form of abdominal tumor or structural change to account for the same. Under such circumstances are we justified in doing laparotomy to aid in a more thorough exploration of the serous effusion? This is an important question, and, in answering it in the affirmative, I wish to make no claim for an indiscriminate practice. Exploratory laparotomy should never be undertaken until all other methods of diagnosis have been found inefficient, and even then we should have a reasonable assurance that the information sought for can only be found by this method. Approaching a laparatomy from this standpoint, we may be able to obtain results absolutely impossible by other methods. So long as ascites is a symptom, and not a disease, it will come within the possibility of an actual cure. In itself a most distressing complication of intra-abdominal growths, how often do we see it entirely removed by an ophorectomy for fibroids or an ovariotomy? The cause removed, the symptom disappears. But it is not with this aspect of this condition that I wish to deal at any length. Ovarian tumors demand removal for other reasons than abdominal dropsy. The same, however, cannot always be strictly said of fibroid growths. Abdominal effusions, the result of such growths in many cases, clearly demand an ophorectomy or hysterectomy to check or remove the mechanical cause of the exudation. An ascitic accumulation dependent upon a mechanical cause may only be within reac by mechanical interference, and with th idea in view the surgeon must aim to secu a result by operative methods. The imp tant point is to determine in advance, if sible, what is the nature of this mecha

influ nce. If this fact cannot be ascertained without a laparatomy, the adoption of this procedure presents a claim upon our attention, and we are in duty bound to consider its advantages. The question will arise, Does the risk involved in an exploratory incision overbalance the probable advantages which may result from the information it is likely to impart? I shall not call in the aid of a long list of statistics to guide us to the answer of this question, but relying upon the growing experience of the profession, axiomatically assert that exploratory laparatomy, carefully and aseptically performed, is, comparatively speaking, free from danger, and should be undertaken in all cases in which the surgeon has a reasonable hope of rendering a service commensurate with the risks it imposes. In abdominal accumulations the peritoneum is more tolerant of interference than in other conditions, and septic processes are less likely to result, hence we approach a laparatomy under conditions more favorable than those usually found. Peritonitis is an unfrequent result of abdominal paracentesis. When aroused in the wake of this procedure, an explanation will readily be found in the methods employed. The mere opening of the abdominal walls with the knife has become one of the safest procedures in abdominal surgery, and gives such results that a growing experience has demonstrated it to be admissible as an invaluable aid to diagnosis. If it be strictly within the province of scientific work to explore the abdominal cavity for the elucidation of such symptoms as pain, reflex-disturbances and other intra-abdominal conditions, an equal claim should be established for the practice of a procedure which may enable the surgeon to remove the cause of such a symptom as ascites.

I have not deemed it necessary to prove the above statement by the use of figures, but as our knowledge is widened by experience a recital of the following case in this connection will prove of interest, by way of illustration, since it presents the most conclusive evidence of the value of an exploratory laparatomy in the treatment of the symptom under consideration."

He emphasizes his position by the report of a case most germane to the subject, which occurred in his own practice.

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## Behavior of the Mucous Membrane of the Corpus Uteri in Carcinoma of the Neck.

The January number of the *Amer. Jour. of Obstet., etc.*, has the following interesting translation from the *Arch. f. Gyn.*, xxxii, 2.: K. Abel says: "An account is given of the examination with the microscope of seven uteri removed by Dr. Landau for carcinoma of the neck. Contrary to investigations made by others, he had been able to establish the fact that in six cases the uterine mucous membrane was most extensively transformed, while that of the cervix was comparatively free from disease. This change, in three cases, consisted of sarcomatous degeneration, in one case of a high grade. In all, newly-formed spindle-cells could be seen toward the surface of the membrane, occasionally becoming larger and larger in the transition into large epitheloid cells. In that state in which the sarcomatous development had reached the highest stage, the sarcoma was of the round cell variety; in the others, spindle-cells predominated. It is particularly remarkable that in the former case the disease of the portio was of recent date. Of the other four cases, a conspicuous development of spindle cells was prominent in two, while all evidence of chronic inflammation was wanting. The resemblance of these changes to those observed in the first two cases was surprising, so that they could be regarded as those of the first stage in the development of sarcoma. In the remaining cases, the mucous membrane was inflamed, involving the glandular apparatus and interglandular tissue, without any sign of new formation. O. regards it as remarkable that, in carcinomatous disease of the portio, the uterine mucosa should be the seat of sarcomatous degeneration. There was no blending of the sarcomatous with the carcinomatous elements, as described by Virchow; both processes were

separated by a layer of perfectly healthy tissue. Analogous to the diverse effects of tubercle bacilli when in the lungs and when in the skin, it could be readily imagined that the same agent produced in the portio carcinoma, and in the body of the uterus sarcoma. In view of the fact that the uterine mucous membrane was not found normal in seven cases of carcinoma of the neck, and that it was impossible to determine the anatomical limits of the diseased process, the author thought total extirpation of the uterus a justifiable operation in such cases."

The editor of the *Amer. Jour. of Med. Sci.* writes:

"Frankel (*Arch. f. Gyn.*, Bd. xxxiii, Heft 1) says that while he agrees with Abel's deductions, that in all cases of cancer of the cervix the uterine mucosa undergoes serious changes, he differs from him regarding the nature of this change. From an examination or six uteri, in which the cancerous disease had not extended above the cervix, he found that the appearances presented in sections made through the corporeal endometrium were those ordinarily observed in chronic endometritis. The interstitial tissue showed marked changes, especially an increase in the number of spindle-cells. It is impossible to trace a direct connection between this condition of the endometrium and the cancer of the cervix. While the writer does not believe that the former changes are of a malignant nature, he is none the less of the opinion that in carcinoma of the cervix uteri total extirpation is preferable to high amputation."

We trust that our German brethren may be able soon to reach an agreement upon this important question and that we "practical Americans" may have the benefit of their carefully conducted investigations.

## ORIGINAL ARTICLES.

### BINIODIDE OF MERCURY—ITS ANTISEPTIC USE.

BY DR. EUGENE P. BERNNARDY.

Read before the Philadelphia County Medical Society.

When I read my second paper "On the Value of Biniodide of Mercury as an Antiseptic in Obstetrics," before the Philadelphia Obstetrical Society (April 1, 1886), I fully intended leaving the results of my investigations to the medical profession, and let them, by further trial, confirm the correctness of my conclusions.

In reading several papers on antiseptics, the biniodide of mercury is declared insoluble, and therefore difficult to use; in one paper, the cost is the objection, it being stated to be more costly than the mercuric chloride. It is to be sincerely hoped that pecuniary considerations will never interfere in the use of any medicine that will assist in saving a human life. I certainly made myself clear in regard to making the biniodide a soluble salt, and called attention to the addition of iodide of potassium.

Dr. P. K. Bolshesolsky, of St. Petersburg (*Vratch*, 1887, Nos. 10 and 11, page 220), from numerous experiments made by himself in Professor A. P. Dobroslavin's laboratory, concluded that biniodide of mercury is a more powerful and less poisonous antiseptic than corrosive sublimate. A solution of 1 to 4000 destroys putrefaction microbes more completely than a corrosive sublimate solution of 1 to 2000. The biniodide dissolved in a solution of potassium iodide was recently tried, with apparently good results, in three cases of laparotomy, under Prof. A. I. Krassowski; for washing the floor a solution of 1 to 4000 was employed; for disinfecting the hands, 1 to 2000; for instruments from 1 to 2000 to 1 to 3000.

In the *Gazette de Gynecologie*, January 1, 1888, Prof. Krassowski, of St. Petersburg, reports a series of eleven laparotomies in which he used as an antiseptic equal parts of biniodide of mercury and potassium iodide in solution. Two deaths occurred from causes not connected with the operation; in each case post-mortem examination showed union of the wound by first intention, and absence of septic inflammation. The mercurial was first used in a strength of 1 to 1000, which was progressively diminished to 1 to 4000.

Krassowski concludes that a solution of 1

to 4000 is an efficient antiseptic, and that this substance is less irritant than the bichloride, and can be applied to the integument in a five per cent solution without producing irritation.

At the recent annual meeting of the Italian Obstetrical and Gynecological Society, Prof. Mangiagalli stated that the biniodide of mercury was a more active antiseptic than corrosive sublimate, less dangerous, and less injurious to instruments. The strength of the solution was 1 to 4000, iodide of potassium, chloride of potassium, or chloride of sodium being used to increase the solubility of the biniodide.

Dr. Rogee-Saint Jean d'Angely (*Lemaine Medical*) states that biniodide of mercury is not irritant to wounds, and is a more powerful antiseptic than carbolic acids. It has no odor, and an alcoholic solution of 1 to 300 is soluble in all proportions in warm water. Lister's dressing is expensive, and not adapted for use in armies. Since 1885 he has employed exclusively the biniodide with dressings of cotton and gauze, and in 108 operations (32 major) had only one death.

Dr. David Webster, in the *International Jour. of Surg.*, October, 1888, states that the use of the bichloride of mercury solutions in ophthalmic surgery has been abandoned at the Manhattan Eye and Ear Hospital, on account of corneal opacities following a certain number of cataract operations wherein these solutions were employed. The surgeon of the Royal Ophthalmic Hospital, about the same time, reported a similar experience. In March last he gave up the bichloride in surgical cases having corneal relations, and now uses Panas's fluid in all iridectomies and cataract extractions. The formula for this fluid is: biniodide of mercury, 1 part; absolute alcohol, 400 parts; pure water, 20,000 parts. The results under this plan have been unusually satisfactory.

In the number of *The Medical News* of June 16, 1888, is a copy of an article from the *Lancet* of May 12, 1888, on "A New Antiseptic Soap," which states that, until quite recently a satisfactory soap containing as an antiseptic one of the salts of mercury, has been difficult to prepare on account of the alkaline soap refusing to yield a good lather, oleate of mercury being formed—a compound which has little or no germicidal action. One of the most powerful antiseptics of the mercury salts is, as is well known, the bichloride. Moreover, it is cheap, and easily soluble, but it has the disadvantage of being extremely poisonous, and easily reduced by albuminoid matter with which it combines, thus being rendered inactive. In a paper recently read before the Society of Chemical Industry, in Glasgow, by John Thompson, the solubility of the red biniodide of mercury (which is claimed to be even a more powerful antiseptic than the bichloride) in iodide of potassium has been made use of. It is stated to be permanent, having no tendency to separate, and to be more germicidal in its properties than any other antiseptic soap yet known. Experiments were made to demonstrate this. Sterilized silk threads were suspended in a solution of the biniodide soap for ten minutes, after being saturated with solutions containing well known micro-organisms, amongst which were the streptococcus scarlatinæ (Klein), bacillus subtilis, orange sarcina, white bacillus from Tweed water, organisms from putrid urine, the micrococcus of osteo-myelitis, aspergillus nigrescens, spores from various fungi, yellow micrococcus from pus, putrefactive organisms, bacterium termo, and bacillus scarlatinæ (Edington). The thread was then carefully washed to remove the soap, and placed in sterilized gelatine in the ordinary way. The threads were controlled by first sterilizing and then plunging into nutrient gelatine; if no growth occurred, they were accepted as being fit for use in the experiment. Washing the threads previously contaminated with organisms, two or three times carefully with distilled water, was shown, by experiment, not to remove the organisms; for, on being placed in the gelatine, growth readily took place. The results, as shown in tables, are very remarkable. In all the experiments, with a few very uncertain exceptions, growth of the organisms was

completely prevented, even after the lapse of four days. Similar experiments, made with "carbolate of mercury" soap, showed it to be less powerful as a disinfectant, and much slower in its germicidal action. In experiments carried out in the same manner with other antiseptic and ordinary soaps, it was shown that the growth of the organisms, in many cases, was not prevented. The importance of such a soap in medical and sanitary science is very obvious. The biniodide soap has been used in the treatment of eczema with well-marked success, especially when the irritation is due to the fermentation of accumulated secretions, the fermentations being set up by micro-organisms. It has also met with similar success when used in parasitic skin diseases, such as favus and ringworm. As a parasiticide, too, the importance of its application to patients during the period of desquamation in scarlet fever is evident.

The interesting experiments, and the careful manner in which they were carried out, are my excuse for giving the above notes in full. They more than corroborate my opinion of the value of biniodide of mercury as an antiseptic.

As will be seen by the title of my present paper, I have embraced a larger scope than in my two previous papers, which were entirely of obstetrical cases. I have divided my paper: First, history of obstetrical cases; second, history of abdominal abscess intercurrent with typhoid fever; third, surgical cases; fourth, application of the biniodide of mercury wool to the chest in pulmonary troubles; fifth, as a disinfectant in the discharges (alvine) of typhoid fever.

### Obstetrical Cases.

Case I.—Mrs. L., aged nineteen, first pregnancy; was called to attend her (January 24, 1886) in a premature labor; she was pregnant about six and a half months; when I arrived I found she had been delivered of a dead male child; the placenta came away in two hours; the patient did well up to the evening of January 27th, when she was taken with a chill, which was repeated in three hours; when I saw her on the morning of the 28th, her skin was hot and dry, face flushed, pulse 112, temperature 102°; tongue thickly furred, abdomen slightly swollen and very sensitive; lochia offensive. Ordered quinæ sulphatis, gr. xx.; morphiæ sulphatis, gr. ¼, night and morning; poultice over abdomen, and hot vaginal injections of 1 to 4000 solution of the biniodide of mercury every four hours; at the second injection the discharges became free from any odor. January 29th, pulse 100, temperature normal. This treatment was kept up, with the exception of the large doses of quinine, to October 5th, when the injections were reduced to one a day for about four days, when the patient was discharged cured.

I have confined this case since of a full-term, living child; the biniodide injections were used at once; she had a good lying-in; discharged on the ninth day, well. (The above case really belongs to my second series, but the manuscript was mislaid at the time, and found too late to be incorporated in my second paper.)

Case II.—Mrs. M., aged thirty-five; fifth confinement; during her pregnancy she had worked very hard, doing almost the work of a man. Was called to attend her in labor March 13, 1886; when I arrived at her bedside I found she had been in labor since the previous day; she appeared completely worn out, having hardly any strength to bear down; the family refused positively instrumental interference. I gave two doses of the fluid extract of ergot, teaspoonful, repeated in half an hour; under its influence the child was born; the placenta soon followed.

The patient did well up to March 24th, when, in the evening, she had a severe chill, which again occurred the following morning (March 25th). I saw the patient on the following day; she seemed to have aged fully ten years; her face was drawn, and of a deep yellow color, eyes bright and sparkling with delirium; pulse 140, temperature 105°; the abdomen was immensely swollen, and could not bear to be touched, more especially on the right side. Diagnosed metro-peritonitis.

Lochia arrested. Ordered quinæ sulphatis, gr. xx., night and morning; morphiæ sulphatis, gr. ¼, whenever pain was severe; hot poultice over the abdomen, hot vaginal injections of 1 to 4000 solution of biniodide of mercury. March 28th, pulse 120, temperature 101°; lochia returning, abdomen not so sensitive. This treatment was continued up to March 31st; the abdomen now allowed of closer examination; in the right inguinal region could be detected a large mass; vaginal examination showed the uterus bound down and completely surrounded by lymph. Dr. W. Goodell, being called in consultation verified the diagnosis. The biniodide injections to be continued; internally, quinine sulph., gr.iij., three times a day, besides an alternative tonic. The patient gradually recovered her health, without any additional treatment.

In this case the injections of the biniodide were constantly used for over a space of three weeks, first every four hours, then three times a day, then once a day, without the slightest systemic action of the drug occurring.

Case III.—On July 11, 1886, I was asked to see Mrs. W., in consultation with her family physician; on entering the house a most sickening odor struck my nostrils; it reminded me of uterine cancer in its last stage; the more I advanced, the worse the odor became; at last I reached the room and bedside of the patient; of all odors I never want to smell the like again; as the nurse remarked, it was worse than decayed carrion; how the patient lived through such a condition was simply miraculous.

I found she had aborted about two weeks previously, and had declined any interference in regard to extracting the placenta, saying "it will come away." On examination, I found the vagina full of sticky, horribly-smelling, brokendown placental tissue, the mouth of the uterus opened, the uterus full of the same kind of material as found in the vagina; the patient declined the use of any instruments, so I broke down and pulled out all that came within reach of my finger; I then washed out the uterus with a hot 1 to 4000 solution of the biniodide of mercury; not yet satisfied, I washed out the parts with another quart of the solution (1 to 4000), until the water came back clear.

I did not see the case again, and, in answer to a letter to the attendant physician, I received the following:

Philadelphia, May 20, 1887.

"My Dear Doctor: I am glad to inform you that Mrs. W. did very well. The iodide of mercury pellets acted like a charm. There was no unpleasant odor attached to the discharges after we began their employment. * * * I have been an ardent advocate of potassium permanganate, but I am now a convert to the biniodide as an antiseptic."

Case IV.—Mrs. H., primipara, aged thirty, fell in labor November 18, 1886. On my arrival at her bedside, I found she had been in labor for some time, the mouth of the uterus wide open, bag of waters unruptured, vertex presentation. On making abdominal palpation, detected at once a twin pregnancy; after a somewhat lingering labor, the first child (boy) was born; on examination, I found the second child (girl) presenting with vertex left posterior; the head came down very slowly, and, on the solicitations of the patient and family, the labor was terminated with forceps. The patient did well up to the evening of the second day, when, about midnight, she was taken with severe frontal headache and chills. I saw the patient in the chill; half an hour after her temperature was 104°, pulse 140; delirious; ordered quinine sulphat., gr. xx., at once, and repeat next morning. Next day (November 21st), temperature and pulse the same, completely out of her mind; lochia almost ceased flowing, and what was present was offensive; abdomen extremely sensitive to the touch. Ordered the quinine to be continued, gtts. x. tr. digitalis four times a day; hot flaxseed-meal poultices over abdamen, hot injections in the vagina of 1 to 4000 biniodide of mercury every four hours. The following day the lochia returned normal. The condition of things remained about the same up to November 25th, when the symptoms were improved;

the patient was discharged well, December 4, 1886.

(The following case was the first patient on whom I used the binionide of mercury injections, and whose history is given in my first paper, June 4, 1885.)

CASE V.—Mrs. D., third confinement (being compelled to leave the city, she fell into the hands of another physician), fell in labor September 6, 1886. After a lingering labor, she was delivered of a still born child; on the second day, as far as I can learn, all the symptoms of an attack of puerperal fever set in; she remained very sick for several days. No vaginal injections of any kind were used. When I saw the patient, on September 19, 1886, she was suffering with an extremely tender abdomen, more especially on the right side, on which side could be detected a small lump. Vaginal examination disclosed the uterus partially surrounded by lymph. Discharges from the vagina very offensive. Pulse 100, temperature 101°-102°. Nothing could be retained on the stomach; as a drink, frozen champagne was ordered. Quinine sulphate, gr. x., once a day; equal parts of ungt. hydrarg. and belladonna to be rubbed over the abdomen once a day, followed by hot poultices, hot injections of the 1 to 4000 biniodide three times a day. My following visit found my patient improved, and in a week was discharged, but it was some time before she regained her usual strength.

On November 1, 1887, I delivered the above patient, after an easy labor, of a large, female child; immediately after the placenta came away, I washed the uterus out with a 1 to 4000 injection of the biniodide; the injections were ordered to be used three times a day throughout the lying-in, which was perfectly normal, and the patient discharged, well and strong, on the ninth day.

CASE VI.—Mrs. C., aged nineteen, first pregnancy; was called to attend her on the morning of August 19, 1888. After an easy labor, she was delivered in the afternoon of a male child; the placenta came away in about twenty minutes. The following day the patient was doing well, but had not been washed, and the odor in the room was very disagreeable. On my following visit I found the patient in a high fever, temperature 103°, pulse 130, full and quick; tongue dry and chippy; the skin from the posterior part of the vulva back to beyond the anus was raw and covered with minute bloody points; abdomen very tender; lochia, what there was, was extremely offensive.

On close inquiry, I found that the mother of the patient, who was supposed to be nurse, had gone on a drunken debauch since the birth of the child, no doubt celebrating her "grandmotherhood;" the patient was placed at once in charge of a competent nurse; hot poultices were ordered to the abdomen; quinine sulph., gr. v., morphia sulph., gr. ¼, every four hours; hot injections in the vagina of 1 to 4000 biniodide of mercury every three or four hours, equal parts of zinc ointment and Goulard's cerat were applied over the raw surface.

August 24th, pulse 110, temperature 101°; lochia coming freely and without odor. August 26th, pulse 100, temperature, 99°; 4 P. M., pulse 100, temperature 101°. Condition better, treatment continued; patient discharged, entirely cured, September 1, 1888.

With the three cases reported in my first paper, eight in my second, and the six cases just detailed, in all, seventeen (obstetrical) cases in which the biniodide of mercury had been employed, gives us, certainly, sufficient data to draw positive conclusions.

### ABDOMINAL ABSCESS INTERCURRENT WITH TYPHOID FEVER.

CASE.—On April 20, 1887, I was requested to see Mary B., aged five years. The little patient had been ailing for the past week, suffering from constant frontal headache, very feverish, loss of appetite, and having a diarrhea. I found her in bed, with a temperature of 103°, very quick, compressible pulse, tongue dry, and a number of rose-colored spots over the abdomen and chest. The case was running the ordinary course of typhoid fever, when, on May 5, the child was taken with a sudden, sharp pain in the right iliac re-

gion; my visit found the child suffering agonizing pain in the abdomen, which was tense and swollen; in the right iliac region could be felt a lump the size of an egg; under appropriate treatment the acute pain somewhat subsided. On May 8, my attention was called to the navel, which had become red, inflamed and pouting; on touch, a feeling of fluctuation was imparted to the finger. May 10, the child passed from the bowels a large quantity of pus; the angry appearance of the navel disappeared, all acute symptoms seemed abated. On my visit of May 12, I found the navel again inflamed, with positive indications of pus underneath; the following day it broke, discharging about a cupful of pus. I now suggested a consultation in regard to the advisability of an operation. It was declined. Same conditions continued up to the first of June; the child by this time had become greatly emaciated, constant discharge of pus from the navel, and symptoms of septic poisoning were commencing to show themselves. At last, on June 12, consent was given to an operation. June 13, Drs. Allis, F. Elder, and C. Reed were present. The patient was etherized by Dr. Reed; after close examination, and taking the weakened condition of the child into consideration, and also that the abscess cavity having made an opening at the navel, it was decided that, instead of opening the abdominal cavity, a counter-opening in the left iliac region be made, and a drainage-tube, extending from the navel to it, be introduced, and the abscess cavity washed out. I washed out the abscess cavity through the tube with a two-quart solution of 1 to 4000 biniodide of mercury; the abdomen was then covered first with biniodide gauze, over which was laid a layer of the biniodide wool, all held in position by a bandage that had been washed in a 1 to 4000 solution of the biniodide of mercury. The abscess cavity was ordered to be washed out morning and night with a 1 to 8000 solution of the biniodide; the child rallied well from the effects of the ether. While washing out the cavity on May 17, a piece of straw came through the drainage-tube. May 22, discharge of feces through the lower end of the tube, which occurred two days in succession; for the following ten days, when the child partook of food, more especially if this was an egg, within a half hour some of it partially digested would appear at the end of the upper part of the tube; if the discharge occurred later than a half hour, it would appear at the lower end of the tube; this clearly demonstrated a fecal fistula in connection with the abscess cavity. Gradually all discharges ceased, and the tube was taken out July 23, 1887; a week later both openings were closed, but it was several months before the child could resume her ordinary diet; apples would inevitably bring on severe colic.

None of us at the time of the operation went further than to "hope" that the little patient would get well. The case demonstrates well the antiseptic properties of the biniodide. It was an extremely warm month, and with the exception of the two or three days on which the feces passed down and through the tube, the odor of the discharges was held in abeyance.

### Double Laceration of the Cervix.

Case.—Mrs. F., had a large double laceration of the cervix following a natural labor. I first saw the case in May, 1885, and advised operation. Operated October 5, 1885. Extensive denudation had to be made; fourteen silver stitches were necessary; hot water was used to cleanse the parts during the operation. On the second day a very offensive bloody discharge occurred. The vagina was washed out with a 1 to 4000 solution of the biniodide of mercury three times a day; at the first injection all odor disappeared, and not return throughout the rest of the treatment; the stitches were taken out on the tenth day, with perfect union.

### Abscess of Right Foot.

Case.—In February, 1887, I was called to see Master McG. About a week previous a heavy box fell on his foot; painful at the time, but not painful enough for him to give up his work, he continued to work up to Feb. 10, 1887; on the previous evening his foot became swollen and painful; under poultices the

inflammation centered, and on February 20, the abscess broke. The opening was stubborn to heal; offensive pus was discharged; every day I injected the cavity with a 1 to 2000 solution of the bichloride of mercury and packed; this treatment was kept up for ten days without any change; the bichloride was then changed to a 1 to 4000 solution of the biniodide of mercury, the discharges were made pure, and in the course of another ten days the openings closed, but the foot remained tender for several weeks.

### Abscess Extending From the Right Axilla Down the Right Side to One Inch Below the Floating Rib.

Case.—W. S., æt. 30 years, barber, of scrofulous habit, somewhat dissipated, having a wart on the right middle finger, picked it with his finger-nails; the result was an acute inflammation of the entire arm. I saw the case July 16, 1888; under cooling applications, the inflammation soon abated. About July 21, 1888, the right side extending from the axilla down to midway between the last rib and the crest of the ilium became in tensely inflamed; the pain was excruciating, and large doses of sulphate of morphia gave only momentary relief; large flaxseed poultices liberally sprinkled with laudanum were applied. On the 24th I detected fluctuation at the lower border, made an exploratory incision, and obtained half a cupful of fetid pus and broken down blood; this gave slight relief. On the 26th, the pain returned tenfold; the same evening, the patient having been etherized by Dr. S. Solis-Cohen, I enlarged the previously made incision to three inches, and about half a pint of extremely fetid pus was discharged;the finger was then introduced, and two encysted pus sacs, situated at the edge of the scapula, were ruptured, and another half pint of pus was discharged; the cavity was then washed out with a 1 to 4000 solution of the biniodide of mercury, a drainage tube introduced, flaxseed poultice applied and over all a layer of biniodide wool.

Next day I found the patient had had a good night's rest; I removed the poultice; cavity to be washed out three times a day with the biniodide; drainage-tube taken out on the fourth day, and within a week the case discharged well. It is hardly necessary to state that good nourishment, iron and quinine were ordered. After using the biniodide no odor was perceptible in the discharges.

### Three Cases of Carbuncle.

Case I—April 23, 1887, I was asked to see Mrs. P., aged 72, and found her suffering with a carbuncle on the back of the neck, six inches long and four inches wide. It was riddled with a number of suppurating points; on the previous day the patient had been given uy by her medical attendant as incurable. On Sunday, April 24, 1887, after the patient had been etherized, the wound, instruments, and sponges were made antiseptic by being washed with a 1 to 4000 solution of the biniodide, after which a crucial incision was made and all the hardened tissue dissected out, down to healthy tissue, thoroughly washed out with the biniodide, and a flaxseed meal and charcoal poultice applied; the sore to be well washed three times a day with the biniodide, when a fresh poultice was applied. Internal treatment, iron, quinine, and full diet. In 20 days the patient was discharged well. The disagreeable odor in this case was not entirely dissipated, but was held under control.

Case II.—Mr. B., coal merchant, aged 40. Carbuncle in right shoulder, size of an egg, hard, indurated, extremely painful to the touch, and a point of suppuration at the center; the case was seen April 7, 1888. The next day, after the patient had been etherized, I made a deep, crucial incision, and dissected out all the hard, indurated tissue; the same treatment was used as in Case 1. No odor connected with the discharges. Patient discharged, cured, in two weeks.

On Oct. 20, 1888, I was again asked to see the above patient. I found him suffering from an attack of herpes of the back of the neck, which was, in a few days, followed by a number of abscesses, two of them resembling small carbuncles. A charcoal poultice was applied, and in three days all the abscesses were opened, but during the follow

ing week there seemed to be no change for the better. I then ordered a piece of linen to be saturated with a 1 to 4000 solution of the biniodide and applied to the surface, and over this a flaxseed-charcoal poultice; within 48 hours the angry appearance of the abscesses and skin abated, and in four to five days more all inflammation had disappeared, when the patient was discharged.

CASE III.—J. E., aged 69, was taken sick about three weeks previous to my seeing him. It first commenced with a painful tumor on the neck. When I saw the case (July 19, 1888), the entire surface from the superior curved line of the occipital bone down to the seventh cervical vertebra and from ear to ear was one immense, suppurating surface, covered with a thick, yellowish green membrane. The discharges were highly offensive. Pulse quick and compressible; slightly delirious; tongue covered with a thick, black, highly offensive membrane. Ordered a piece of linen to be saturated with a 1 to 4000 solution of the biniodide and applied over the surface, and over this a charcoal-flaxseed poultice every three hours. The odor was held in abeyance. This treatment was continued for about ten days, when the surface became clear of all adventitious membrane. Poultice was continued; carbolic acid was ordered in place of the biniodide. Patient discharged, cured, September 20, 1888.

Dr. S. Solis-Cohn saw the case for me in August, and we concurred in one prognosis, which was death; but we were more than agreeably surprised.

BINIODIDE OF MERCURY WOOL AS AN APPLICATION OVER THE CHEST IN PULMONARY TROUBLES.

When, in the winter of 1886, I first ordered the chest of a child suffering with catarrhal pneumonia to be enveloped in a layer of the biniodide of mercury wool, it was simply to overcome the disagreeable matting of the cotton. The child, previously to its use was very restless, and seemed to suffer pain. On the following visit I found that the little patient had had its first quiet sleep since the commencement of its sickness; since then I have almost entirely discarded the use of cotton. The results in a number of cases lead me to believe that there must be something more than the warmth of the wool. Can it be that the heat of the body disengages the biniodide, and as the consequent result, the patient is constantly surrounded by an antiseptic atmosphere?

In a case operated on for cancerous constriction of the bowel, by Dr. Charles B. Penrose, the patient, about the fourth week, was seized with a sharp pain in the right side below the nipple; counter-irritants did not relieve her; on ausculation, crepitant rales were easily detected in the lower right portion of the lung, under the point where the pain was complained of; the side was enveloped in the biniodide wool, and within twelve hours the pain had entirely disappeared. In the neuralgic pains always present in a case of phthisis, I have found the wool to invariably diminish, if not entirely dissipate the pains, and the expectoration seems easier and in smaller quantities.

My attention was called to the following by my office-pupil, J. N. England: "Biniodide of mercury Pulverization for Tuberculosis" (*Amer. Jour. of Phar.*, October, 1888). Miquel and Rueff's formula is given by the *Arch de Phar.*, September 5, 1888, as follows- Biniodide of mercury and iodide of potassium, of each 1 gramme; distilled water, 1000 grammes. The solution is stable. At the beginning 10 c.cm. are sprayed once daily; to be increased to 25 c.cm. twice daily. The larger portion of the liquid should be inspired. It reaches the lungs, says the author, but salivation does not follow, even after months of treatment. The sputa changes in character and diminishes in quantity; the number of microbes is lessened, but these organisms rarely disappear completely. The cough increases at first, and afterward subsides.

If my theory of the disengagment, by heat, of the biniodide from the wool be correct, its action will readily be explained by the above experiments of Miquel and Rueff.

### Disinfectant in the Alvine Discharges of Typhoid Fever.

For the past two years I have used the pellets of the biniodide dissolved in the alvine discharges of typhoid fever, and the results have always been satisfactory.

In the spring of 1886 I treated an extremely bad case of typhoid fever; the patient was broken down from dissipation, having had; about two weeks prior to his illness, an attack of delirium tremens; the alvine discharges numbered from twenty to thirty a day, and were highly offensive; chloride of lime, and different forms of chloride and sulphate of iron were used without any diminution of the sickening odor. I then ordered two (1 to 4000) pellets of the biniodide of mercury to be dissolved in a half pint of water and placed in the bed-pan, to be renewed every time the pan had been used by the patient; the odor was completely dissipated,and kept so.

In another case the bichloride of mercury pellets were used without success; the biniodide pellets gave the desired result. In a case of labor, which, at the end of the lying-in, terminated in an attack of typhoid fever, the nurse used the biniodide pellets on her own account in the bed-pan, there was no disagreeable odor throughout the course of the disease.

The description of the action of new medicinal preparations or new properties to an old medicine necessitates tedious histories of cases; this must be my excuse for dragging through such dry details.

It is not my intention to present to you the biniodide of mercury as the one and only infallible antiseptic; I simply present my results, and have tried to give impartial histories, without exaggeration, simply as they have occurred. But the action and results of the biniodide of mercury fully strengthen my belief in its stronger antiseptic value and non-irritating properties over the bichloride.

221 South 17th Street.

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New York is to have a large botanical garden.


# WEEKLY MEDICAL REVIEW,

EDITED BY

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J. H. CHAMBERS,

914 Locust Street, St. Louis, Mo.

SATURDAY, FEBRUARY 9, 1889.


### The Missouri State Board of Health.

It would be well for our state if there were some way of arousing the people to a sense of the necessity of prompt action in regard to sanitary matters. It is a lamentable truth that there is to-day in this great commonwealth practically nothing to protect its citizens in case of a serious epidemic.

It is true we have a Board of Health, but it is without the means of support. There is no appropriation and very little public interest shown for it. When we contrast the magnificent showing made by other states in the matter of appropriation we have to blush for Missouri. For instance, Alabama makes an annual appropriation of $3000; Illinois of $9000; Kansas, $4500; Iowa and Indiana, $5000 each; Michigan, $6000; Connecticut, Minnesota and Maine, $5000 each; New Jersey, $9500; California, Delaware, Kentucky, North Carolina, South Carolina, Ohio, Pennsylvania, Rhode Island, Tennessee, Vermont, Wisconsin, West Virginia, all make appropriations for their Boards of Health, while New York gives $20000; Texas, $25000; and Massachusetts the handsome sum of $44300. Most of these states have a handsome contingent fund, for use in case of special need.

With this array of figures what shall we say for our own state. A few hundred dollars given grudgingly half a dozen years ago,and there the matter ends. What an inducement to immigrants! What want of thought for the health and lives of those already here. It is not our purpose to discuss the necessity for a State Board, nor is it needful to urge

the further regulation of the practice of medicine, for it is plain that we cannot get our law makers to see the necessity for this.

We do say, however, that it is their right and duty to protect the lives as well as the property of those whom they represent. While they may enact laws which will aim to rid the state so far as possible of burglars, thieves and assassins, they should not neglect such measures as will tend to keep the state free from the invasion of epidemics and hinder the spread of such diseases as may be checked by proper sanitary regulations.

Let the individual members of the profes sion in Missouri once more request of their representatives that they take the needed action. If something is not done soon all that pertains to a State Board of Health in Missouri will be a dead letter. Let it not be said that the physicians of this great state did not have interest enough or influence enough to prevent this matter dying out, for certainly the profession is responsible for much of the failure to have a well supported Board of Health. W. P.

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## Doctor Spitzka on the Whitechapel Murders.

At a recent meeting of the Society of Medical Jurisprudence, New York, Dr. E. C. Spitzka made some remarks on the medico-legal and historical aspects of the Whitechapel murders. (Reported in the Jour. of Nervous and Mental Diseases, Dec. 1888). He began by saying:

"It is when approaching the consideration of this repulsive subject that we appreciate the old writer's definition: 'Man is an ape without the tail, who walks on his hind legs, is gregarious, omnivorous, restless, mendacious, thievish, salacious, prequacious, capable of many acts, the foe of the rest of animate creation; the worst foe to his own kind.'"

In discussing the questions as to whether these murders and similar deeds have been committed by persons suffering from extreme sexual aberrations, and secondly, whether such aberrations are necessarily due to insanity, he mentions in about as decent language as possible under the circumstances, the revolting practices of some of the Cæsars, of Gilles de Retz "who continued his terrible excesses for eight years, entrapping, outraging, vivisecting and destroying according to his own confession over nine hundred childern of both sexes. In analyzing the matter of this latter monster's remarkable confession, Spitzka says: "The whole tone of it, the frequent involuntary exclamation of 'Beautiful,' 'luxury' and such like terms when describing the revolting and horrible, indicate to my mind that he was nothing more nor less than a degenerated voluptuary. Certainly he was not an impulsive lunatic, for he had assistants.

"It is improbable that he should reach the age of thirty-six before yielding to the impulse. It is more likely that his earlier excesses had led to a condition in which, as Shakespeare has it, 'desire outliveth performance'; that he exhausted all artifices to stimulate his weakened powers; and coming across the work of Suetonicus (in which are described the lives of the Caesars), it exercised a horrible fascination over him. No one will claim that his associates in crime were insane. But the very fact that it is more difficult to conceive how two persons could be found so brutalized and callous as to do for money or interest what de Retz did in obedience to the most powerful passion—however perverted—shows how careful we must be in allowing the horrible nature of a crime to rank as a proof of insanity. From those men to whom the shriek of torture of the violated virgin is the essence of their delight and who would not silence by a single note the cry of agony over which they gloat, exposed in the Pall Mall Gezette; from the country boy, who after excessive self abuse developed a penchant for intercourse with ducks, geese and other animals, his gratification being exalted by their dying agony—there is an unbroken chain of cases, showing how the acts of Gilles de Retz and the Whitechapel murderer may evolute on a basis of voluptuous exaltation associated with sexual failure.

"Marquis de Sade was born in 1740. In 1772 he was sentenced to death *in contumacium* for sodomy and attempted poisoning. He evaded the death penalty by flight; but returned to France, and probably with the aid of assistants carried out a number of excesses, undiscovered similar to the following. The strollers on one of the Parisian streets, one evening in 1777, heard groans as if from a remote apartment in a deserted house; the door having been forced, other doors were encountered which were forced in turn; and in one room a nude female was found tied down on a table and pale as death from loss of blood. There were two wounds one at each bend of the elbow, as if made by a phlebotomist, one in each breast and corresponding ones on the vulva. Her story was as follows: In the ordinary course of her 'profession' she had been solicitated by the Marquis, who invited her to sup with him and his associates. After the supper she was tied down, assured that only a little blood would be drawn, and that a surgeon, at least one who used surgical instruments,had made the wounds in question. As soon as the blood flowed freely he threw himself on the victim. She however alarmed, cried out, and the Marquis and his accomplices fled, on hearing the doors forced. Otherwise it is probable that the wounds would have been stanched and the victim silenced by the means usually effective in her class. He was arrested, tried, convicted and imprisoned in the Bastile. From here he was transferred to the asylum at Charenton for alleged insanity. In 1790 he regained his liberty and published several prominent works. It was his attempt to issue a collected edition of these works which led Nepoleon I to order his rearrest and confinement in Charenton, where he died, leaving several posthumous manuscripts of a like character.

In his case neither periodical impulses, epileptiform nor vertiginous seizures existed. His perversion ran like a red thread through his entire mental organization. Yet I believe that a consideration of the case of the Roman emperors, whose example had so marked an effect on deRetz, Sade's prototype, will show that unlimited indulgence and absence of responsibility are competent to make sexual monsters out of mere voluptuaries. * * * The existence of neurotic taint in the family of the Cæsars does not prove that ther sexual aberrations were necessarily due to insanity. It shows that they are more likely to assume certain guises in the insane than in the sane. Tiberius was not a lunatic nor an epileptic and his excesses more nearly resemble those of de Retz than those of Caligula and Domitian. As I hinted before, example, opportunity and license operating on a mind not strong, turned by flattery, and meeting temptation at the hands of hordes of willing purveyors,will sink into loathesome luxuriousness even when not insane."

"To come down to the Whitechapel Assassin, there are very few cases in the literature of the subject that nearly approximate his case. None are exactly like it. Long series of murders on women, done in the same manner and committed from evidently similar motives are recorded, but they all were committed in comparatively deserted localities. Only one was continued after the murderer knew that the hue and cry had been raised and skilled measures adopted for his capture. At Gainesville, near Austin, Texas, ten murders, terribly similar in detail, were committed in 1887. The first blow was with an ax, and afterwards the bodies so mutilated that they fell apart on being lifted up. The killing was uniformly done in bed, the victim was as a rule dragged into the yard and there hacked to pieces. Most of those destroyed were colored servants. In his tenth case he failed to complete his task, the victim escaping with her life. The perpetrator has not been discovered."

"If the inscription on the window-shutter, stating that he had twenty to kill, and would then surrender himself, signed "Jack the Ripper," be really the writing and signature of the Whitechapel Assassin, it may put an entirely different aspect on the case. If it be a genuine expression of intention it is impossible to account for it on the theory of impulsive, periodical or epileptic insanity. It

is not inconsistent with sexual perversion that he might have written this to mislead. Indeed it would not surprise me if this person were an acquaintance of an author of eminence, unbosomed himself to him, and thus utilized in a sensational tale. It would not be the first time that a subject of sexual perversion has entered the lists as a writer, and no artifice that ingenuity could devise or industry execute would be too cunning for one of this class. I look upon the revelation of his identity with the highest degree of curiosity, and I am prepared to learn that, like the Texas and Westphalian assassin, he may discontinue his work and remain forever unknown. Such a mind is not immune to the influence of fear and the necessity of caution, and as regards the last phase in the history of the Texas and Westphalian assassin it may remain an unsolved alternative between latency of the impulse and the suicide of the assassin."

"I do not believe that the ten Whitechapel murders are the only acts of the kind of which the unknown has been guilty. Either he has performed similar acts on the living in deserted localities, when the cunning he has since exhibited so manifestly would aid him in obliteraing every trace of his deed, or he has served an apprenticeship on the dead body, be he butcher, medical man or amateur. It is not easy to remove the human uterus without a fair knowledge of pelvic topography, and he who endeavors to expose and remove that organ on the strength of an experience acquired among the lower animals need well be a good homologist."

"Finally I would suggest that not the least probable theory is that the same hand that committed the Whitechapel murders committed the Texas murders. We can well picture the man to ourselves: of Heculean strength, of great bodily agility, a brutal jaw, a strange, weird expression of the eyes, a man who has contracted no healthy friendships, who in his own heart is isolated from the rest of the world, as the rest of mankind are repelled by him."

The English medical and secular journals have been strongly censured for attributing the Whitechapel murders to an American. Undoubtedly they did this on absurd grounds and in a cockney spirit; but to any one familiar with the Texas homicides of a year ago, the theory that both acts were committed by one and the same person does not seem unreasonable. At the last meeting I noticed among the audience two men who were undoubtedly cases of sexual perversion, who came to hear Mr. Abbott's paper; and there have been stranger freaks in history than would be the fact of the Whitechapel murderer sitting among us at this very moment.

We must not forget, in estimating the true nature of the murderous impulse, that among animals such impulses are often associated with sexual life. The female mautis religiosa devours the head-piece of her mate, while the abdominal segment (apparently undisturbed) completes the marital act. Certain female spiders devour their mates post-coiter. Again the gorilla—according to evolutionist, a near relative of our species—when he has disabled a foe, delights in tearing out his entrails and revelling in massacre. In the sacking of cities,infuriated soldiers have frequently been guilty of combined acts of butchery and rape. The wild beast, as stated at the opening of this article, is slumbering in us all. It is not always necessary to invoke insanity to explain its awakening.

To normal minds, as Dr. Spitzka states, this whole subject is a repulsive one. But there are several reasons why medical men must take cognizance of it more or less. They are more liable than any other respectable class of the community to come in contact with this variety of monstrosities. Evidently, if for no other reason than their own protection, they should be able to diagnosticate them. Again there is no telling on how short notice almost any physician may have to deal with the medico-legal aspect of the subject.

F.R.F.

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SOMETHING over one hundred thousand deaths occur in London each year exclusive of epidemics.

### Ptomaines in the Eye.

Dr. Rattan reports a case (*B. Med. Jour.*,) in which a man, while handling a ripe cheese wiped his left eye with his finger. Shortly afterward he felt a sharp pain in the eye "as if there was a fly in it"—chemosis followed so rapidlyas to envelop the cornea all round within an hour. A saturated solution of borax and a drop of atropine were applied and the patient directed to keep the eye closed. An hour later the eye was well.

Atropine occasionally produces rapid edema of the lids, filling them with clear serum. This, however, does not subside so rapidly as the edema of the conjunctiva in Dr. Rattan's case. In such cases gentle pressure is the best remedy at our command.

### Death From Chloroform in an Obstetric Case.

A Manchester correspondent writes the *Brit. Med. Journal*, that a death had occurred at that place, from the use of chloroform during a labor. We sincerely hope the *Journal* will be able to give the details of the case as death results from the use of chloroform during labor so rarely that many believe that it never occurs.

### Poisoning by Antifebrine.

A Berliner took thirty grains of antifebrine for a headache, and twenty-four hours later took thirty grains more. Quarter of an hour after taking the last dose, he had cold sweats, vertigo, anxiety, heavy palpitation of the heart, small and frequent pulse and great depression. His face and hands became cyanotic. Black coffee and castor oil were given him and he recovered.

Dr. Allison reports a case in the *A. M. A. Journal*, in which a man took between two and three drams at one dose. Ten hours later he was the most cyanotic subject that Dr. Allison had ever been called upon to treat. The symptoms were similiar to those described above. Stimulants were administered and patient ordered to keep a recumbent position. The following day he resumed his work. The *Journal* says: "Sexton tells of a case in which ten grains of antifebrine reduced the temperature from 105° to 102° F.; five grains more given which were followed in two hours by cyanosis of the whole body,profuse sweating and collapse; while Pavai Vajna states that in weak patients a dose of four grains may produce collapse."

### An Old Book on Eye Diseases.

The eminent ophthalmologist, Mr. Swanzy, who is well-known in America, recently presented to the Library of the Ophthalmological Society of London, a rare and curious book, of which the *Brit. Med. Journal* says: "It is probably the oldest genuine treatise on the eye in existence. It was printed in 1583. In it is an elaborate chapter on cataract, the operation of couching, or dislocating the lens is minutely described and illustrations given of the needle employed. Much importance is attached to dressing salves and lotions, and lengthy prescriptions are numerous."

### Phenacetin.

The editor of the *Medical News* gives the result of Mahnert's experience in the use of this drug, from which he draws the conclusion that its action in fever seems to be no better than any other pure antipyretic such as antipyrin,and that it reduces the temperature less rapidly than other members of the group. So far as he is aware phenacetin certainly acts as an analysic in locomotor ataxia and in some forms of neuralgia. It may be given in from five to fifteen grain doses in nueralgic headache. It has been highly praised in ovarian neuralgia and hemi-crania.

### Nasal Bougies.

Dr. H. C. Wood says that if the upper portion of the nostrils be closed by the swelling of erectile tissue, bougies made of cocoa-but-

ter may be gently forced between the coaptated surfaces and securely held in place till they are melted. He has tried gelatin in a number of forms and combinations but without success. After the insertion of the bougie till it melts the patient should continue to lie down.

In cases of obstruction of the nasal fossæ, surgery has given much better results than medicines.

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## SOCIETY PROCEEDINGS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, January 23, 1889. The President, W. W. Keen, M.D., in the chair.

Dr. Mordecai Price read a paper on

Amputations of Thigh and Leg.

The subject I wish to bring before the society to-night is one of deep interest—to me at least, and to all others who are alike unfortunate in having lost a limb. In performing amputation on the leg, the chief object of the surgeon of the day seems to be to remove the limb and save life—the future comfort and usefulness of the patient being minor considerations. The comfort and usefulness of patients who are subjected to amputation of the leg have received my personal attention through the entire period of my professional life. This has been my latest thought at night; my first consideration in the morning; and I have been painfully reminded many times during the day of the importance of changes in the present surgical practice. I see no reason why in this department we should narrow our surgery to a strict following of the dictum of a school of surgeons a century old: why we should not, in step with other departments of surgery and medicine, adopt those new truths which our advanced art and science and wider experience approve.

I ask your critical consideration of the few changes I propose to suggest. As a student I often marvelled at the numerous amputations done near the ankle and through the knee, for the reason then given: to save all the limb possible, apparently without due consideration of the discomfort and suffering to follow and the usefulness of the limb. I have waited for years hoping that some of our eminent surgeons, members of this society, would bring the subject before us, when I expected to be able to say something upon the subject. Like many other departments of medicine and surgery, however, this seems to have been looked upon as one of the subjects forever settled. For as far back as the works of surgery of the eighteenth century I find the same old plates, the same old positions for removal of the limb—where it is a matter of selection with the surgeon—as I find in use to-day. Sometimes the accident comes to the patient's rescue and removes sufficient of the limb to compel the surgeon to give the patient a good stump. In an amputation to-day in the foremost hospital of the world—the Pennsylvania—if the location of the injury left a choice as to where the limb should be removed, it would be done through the ankle or at the lower third of the leg. I suppose you ask "Why not?" I would answer that question by asking the question: Why do we amputate at all? The answer would be: first, to save life; and, second, to make a useful limb. Now, we can save life as easily by one method as by the other. Why not then operate solely for the best interest of the patient? In an amputation of the leg all that is left below the middle of the middle third of the leg is useless and in the way, and gives that much more room for ulceration and friction sores. Let me tell you, gentlemen, these are weighty considerations in an amputation, for they compel the wearer of an artificial limb either to endure great suffering or to leave the artificial limb off, as I can abundantly testify from personal experience. Nearly three quarters of a century ago, Gibson used the following language: "As much as possible of the thigh should in all cases be saved. But the rule does not always hold good in amputations of the leg. If, for example, the leg be amputated just above the ankle, the bone, from the deficiency of sur-

rounding muscle, cannot be well covered, and is therefore not calculated to bear the pressure of an artificial leg. On this account the patient is obliged to have an instrument of the kind adapted to the knee, and the leg, therefore, is carried out behind at right angles with the thigh and by its weight greatly incommodes the patient, so much so, indeed, that I have known two or three to submit to a second operation, for no other reason than to get rid of the incumbrance." This Dr. Gibson gives as his professional experience. I personally know of a number of reamputations for no other reason than the suffering, discomfort, or absolute impossibility of wearing an artificial limb upon a long stump. After the affliction of an artificial limb there is a constant diminution of the size of the stump. Its nutrition being continually interfered with, and the parts being of low vitality, consequently, when we have ulceration or friction sores or injuries of any kind, it is with great difficulty that they are induced to heal.

There is another element to be taken into consideration. As soon as the artificial limb is left off, and the patient assumes an upright position, the limb is greatly enlarged by a species of edema which takes place immediately, leaving the parts in no condition to heal. The limb has the feeling of being cold and almost lifeless, and if exposed to cold it would be the first to freeze. It is almost impossible to keep the amputated limb warm.

When the artificial one is left off, amputations through the knee-joint give in many cases a very bad surface to bear the weight of the body, and a leg is rarely worn with comfort. Such an amputation absolutely prevents the application of a full-lengthed limb, as the knee-joint would have to be lowered some three inches for want of room, making at best a useless appliance. Amputate threfore—if it is a matter of selection—through the lower third of the thigh. An amputation below the middle of the leg is objectionable on account of the length of the stump, which presents occasion for ulceration and is difficult to dress properly so that the limb may be worn with comfort. Every inch of stump over five or six inches below the knee involes that many hundreds of hours of suffering and distress to the patient. The additional chance of life does not add one feather's weight in favor of the long amputation. Amputation at the lower third does not give sufficient room for a strong ankle-joint, and, therefore, adds greatly to the wear and tear of the limb, thus adding largely to the expense. Amputations through the ankle may give the patient something to walk on, but this is oftentimes accompanied with great pain. It often gives him a poor excuse for a limb, and completely prevents any mechanical appliance from aiding him in the least, and forever prevents him from hiding his terrible deformity. If ever there was an appliance to which the term "slip-shod" could be appropriately applied, it is to those intended to imitate nature in these cases. The usefulness of an artificial limb is in proportion to the simplicity and completeness of its mechanical construction. The nearer it resembles the human limb in all parts, the more perfectly it fills its office. There is one fact associated with these cases to which but few of you, perhaps, have given a thought: that is the ever present and painful consciousness of physical deformity which the patient has, and the fact that his maimed condition closes to him many evenues of honorable, useful and lucrative employment. This applies especially to the case of civilians; to the soldier it is different; to him the loss of part of a limb is unchallenged testimony of gallant and heroic sacrifice.

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DISCUSSION.

Dr. L. K. Baldwin.—I have been much interested in the remarks of Dr. Price, partly because a gentleman called at my office this afternoon and asked me to look at an abrasion on the stump of an amputated limb. The amputation had been performed at the junction of the middle and lower third. It was just such a stump as I thought he ought not to have had. The operation was performed ten or twelve years ago, and although he has

worn a number of legs, the stump is always getting rubbed. The remarks of Dr. Price in regard to amputations near the joint are very good. There is no one more capable of speaking upon this subject than Dr. Price himself, for there is nothing like practical experience. His remarks are worthy of all consideration, and it would be well if they were followed out.

Dr. James Collins—I have listened with a great deal of earnestness to the remarks of Dr. Price on this question. He comes rich in that experience of suffering that makes men wise. I therefore attach great weight to his words. I could, however, but think that while the doctor is entirely right in his opinions, he may have forgotten the lectures given at the time he graduated. I have heard the professor of surgery say, and have seen him demonstrate, that the point of election for amputation of the leg was three fingers' space below the tubercle of the tibia. I think it well to mention this, and while I admit the great advances wnich have been made in surgery, yet, I think, that we should not cut entirely loose from all that has been done in the past. With reference to what has been said in regard to long stumps, I think that the surgeons of twenty years ago were deluded by the promises of the artificial limb makers. The artificial limb makers made demonstrations before classes in surgery, and led the surgeons to believe that if they had a certain form of stump they could apply the limbs better. They described their wonderful limbs that could almost walk without a man attached to them, and thus to a certain extent deceived the surgeon.

Dr. O. H. Allis.—I would ask Dr. Price if in a case of injury to the foot he would take off the limb say at the tarso-metatarsal joint, or go to the point of election below the knee?

Dr. M. Price.—I should prefer to operate at the point of election. I think that even in an injury which would require amputation of the great toe, the patient would be more comfortable and walk better if the limb were taken off below the knee, although I do not say that I should do it.

Dr. H. R. Wharton.—I agree very thoroughly with Dr. Price as to the necessity of securing a good stump, and as to the point of election in amputations through the leg. I have for some time made it a rule not to make any amputation near the ankle-joint, preferring to go some distance above, if I have to go above the ankle.

I, however, disagree with him in regard to the discomfort which a patient suffers with a Syme or a Pirogoff amputation. I have seen such cases get along very well, and walk with comfort. I also disagree with Dr. Price in regard to knee joint amputations. I, of course, refer to amputation through the joint, the condyles being saved and the patella being left. I have seen these patients apparently walk with comfort, and have a good stump. Where the amputation is one at the knee joint, a portion of the condyles being sawed off and the patella removed, a square stump is secured which can be well covered. I have seen a number of cases of this operation, and in these the patients had good stumps.

I think that the main element of a good stump is a movable covering, the skin being perfectly movable over the bone. If the skin is bound down and is subjected to pressure, the patient will suffer from constant irritation, and will be apt to exhibit some of the forms of mechanical ulceration seen in stumps.

I agree in regard to the uselessness of trying to save too much time in amputations.

Dr. John B. Deaver.—In the large number of amputations I do in the hospitals of Philadelphia, I never do a Syme, but I do a Pirogoff and a Chopart. We often have to be governed by the wishes of the patient. I have had cases where I advised an amputation of the leg in order to render the use of an artificial limb easier, but where the patient has insisted that as much as possible of the limb should be saved. A Pirogoff does well. It answers better for a working man than for one under better circumstances. Osteoplastic resection of the foot gives the patient an almost useless limb. Yet it is a very

nice and a very difficult operation. It has been performed only twice in this city, once by Dr. Hopkins and once by Dr. F. H. Gross, at the German Hospital. The patient of Dr. Gross is still in the hospital. He is able to get around, but I do not think that he will be able to do hard work.

In amputations through the knee-joint I think it is important to leave the patella, which serves partly to carry out the theory of Dr. Price of leaving a plane surface. When the patella is removed there are left two irregularities caused by the condyles. We must here be careful not to divide the ligamentum mucosa. If that is divided the action of the quadriceps causes retraction of the patella. I have, however, seen retraction in cases where attention was paid to this point. In such cases it would be better to do the amputation at the knee. This, of course, opens up the medulla, and exposes the patient to dangers of septicemia, but with antiseptic surgery I think that the risk would not be increased.

Dr. J. Price.—Attention has been called to the locomotion of persons wearing artificial limbs. Dr. Price has not said very much about his own locomotion. He is very fond of using the gun, and I have often hunted with him from morning until evening, and can speak of the tolerance of a good stump and a good artificial limb. In his own case he has wonderful tolerance for prolonged walking and climbing.

I have watched many cases of amputation where the operation was performed years ago. One case, operated on by Dr. John Mitchell, I see sometimes with one crutch and sometimes with a crutch and a cane. In none of these is the locomotion good. The amputations were made at the points criticized this evening.

Dr. A. Hewson, Jr.—The only point which I have to offer is in regard to Pirogoff amputations. It has been suggested that no artificial appliance could be employed in these cases that would look well. In several of these operations, done by my father, I have seen a shoe so well applied to the stump that it was almost impossible to tell that the man had an artificial foot. The difficulty was overcome by a large spring being put in the place occupied by the ball of the foot, *i. e.*, extending from the heel toward the toe, so that when the heel was put to the ground there was not that sagging in of the shoe as occurs when simply a filled shoe is worn.

Dr. O. H. Allis.—My own feeling is that where amputation is very low down near the ankle-joint, the limb is used almost as a crutch, whereas if the amputation is a little below the knee, the instrument maker can make so good an ankle-joint that the wearer can walk on any declivity almost as well as with the natural limb. When you try to piece out an ankle, the part can not be used as a foot, but is more like a crutch.

Dr. Frank Woodbury.—I should like to say a word in regard to a class of cases to which reference has not yet been made, that is, to amputation for disease, and particularly tubercular disease of the joints. I would refer to a series of observations made by Ogille, in which it is stated that the prognosis of tuberculosis of the lungs is improved by an amputation, and that the larger the portion of the body removed, the better chance there is for the entire recovery of the patient. It seems that in certain cases of phthisis the nutritive powers are not sufficient to maintain the nutrition of the entire body, so if we can remove say one-eighth, or a larger portion of the body, the digestive function and the blood-making function are more than sufficient for the remainder of the body, and the nutrition is therefore improved.

This is directly to the point of operating in cases of joint tuberculosis, and also in the direction of the paper that we should not endeavor to save all the tissue that is available.

Dr. M. Price.—I agree with the statement of Dr. Allis that such appliances are just like crutches. A man with a well-made foot can readily go upstairs giving a little spring with the sound foot. I was able to play base-ball, foot-ball and the like, and was at school for

a long time before it was known that I had an artificial limb by any one with the exception of my room-mate.

In regard to Dr. Collins's statement as to the teaching when I was a student, Dr. Smith, who was at that time professor of surgery, was one of the most conservative of men. His statement was that we have to consider what we are doing in amputating, and consider the influence upon the man himself. As many of these patients are led into bad habits of dissipation by being invited to drink by every one they meet, it might, in these cases, be better to amputate around the throat. I am not surprised that Dr. Collins has called attention to the fact that Dr. Smith amputated three finger's breadth below the tubercle of the tibia. Dr. Smith had been in the war, and had seen much to show him the usefulness of a proper length stump.

If I were going to amputate near the knee, I would operate below the joint, giving the patient a knee bearing leg, with the patella and all its attachments in place. As soon as you amputate the leg, retraction takes place. It is one of the secrets of treating a man with amputation to keep the stump straight. If the limb is left lying loosely on a pillow, there will be retraction of the muscles. Now and then I have to wear a peg, and it is then two or three days before I can straighten the leg. I would not suggest an amputation that opens the knee-joint. Where the operation suggested cannot be done, I would amputate at the junction of the lower and middle third of the thigh, and thus the knee-joint could be brought in the proper position.

In the case of workingmen who have passed that period in life when there is no chance of advancement, I have no objection to a Chopart, or any other amputation that will give the man a limb that he can walk upon. I am speaking of amputations that will give the man the same appearance that he originally had. I think we err in discussing the question of what ought or ought not to be done with the patient. We are there as his adviser, and it is our business to do the best for the patient. I say to him such and such should be done. If he says that he will not have it, I decline to treat him.

## SELECTIONS.

### THREE REMARKABLE CASES OF REFLEX NEUROSIS DUE TO EYE-STRAIN.

BY GEORGE M. GOULD, M. D., PHILADELPHIA.

There are some physicians who are at once seized with an acute attack of mental strabismus when they are told stories of peripheral irritation inducing functional disturbances, such as the following cases.

The superior oblique, not the internal rectus, is the muscle affected. They distrust the Greeks even when bearing therapeutic gifts, and smile incredulously. For this reason I have hesitated to publish the notes of the following cases; but since the facts are well-known to several reputable physicians and may be substantiated at any time, and since, moreover, I believe all these cases range themselves under a common law that explains their apparent illogicality and makes them intelligible, I conclude it best to make them known to others.

Case I.—Chorea of several Years' Duration Relieved at once by Correction of Ametropia.—Susie H., æt. 14 years, came to me Nov. 7, 1888, with the following history and complaints: Twitching of the right hand and foot was first noticed two or three years ago, coming on without noticeable cause. Since then up to this date she has been treated for chorea at one of our best Hospitals for Nervous Diseases. She gets somewhat better during summer, but when school begins, she gets worse. Latterly, and just previous to coming to me, she had been having frontal headaches every day with attacks of giddiness or dizziness. Her mother and sister complain of her violent outbursts of temper. Sometimes, even in street cars, and upon the slightest provocation she will burst out crying or jump up and down and scream. The chorea, however, was the chief cause of complaint, and this seems to have continued during sleep, her sister being frequently disturbed or awakened by the jerking. The right

shoe was worn out much sooner than the left, and as the child sat before me the motions of the hand and foot were continous and painful to see. Menstruation began three months ago, but certainly had not made the chorea any better. In the history of the case I particularly noted that there had never been any blepharospasm or tic of the face. The child was physically a robust, well-built young woman, otherwise in excellent health, without a sign of hysteria, and whose parents were likewise of non-neurotic healthy temperament. When she came to me she was taking twelve drops of Fowler's solution three times a day, which had been ordered by the physicians of the hospital. The arsenic had no evident effect upon the disease and the order was to increase the dose until certain well known symptoms were noted, or until she became sick from the effects. Under a mydriatic I ascertained her refractive error to be alike in both eyes, and corrected it by the following combination of lenses: Sph.+1.00 D.= Cyl.+0.75 D. Ax. 90°. Spectacles were prescribed and the arsenic treatment wholly and suddenly suspended. Instead of the chronic symptoms being thereby increased, her sister a week later told me she was no longer troubled by the child's movements at night. In fact, the involuntary movements of both foot and hand slowly disappeared, so that in three weeks after the application of glasses none were noticeable. The headaches, etc., have disappeared and the disposition changed for the better. So far as the chorea is concerned it does not exist to-day.

Case II.—Flatulent Dyspepsia of 20 Years' Standing Cured by the Application of Spectacles.—On November 11, 1888, Mrs. E. G., æt. 44, was kindly recommended to me by her physician, Dr. O. P. Rex, who had after oft-repeated advice, finally got her to consult an oculist. Her complaint was of certain ocular and cerebral troubles, asthenopia, difficulty in near work, etc. She had had headaches for most of her life. She did not complain to me of her gastric troubles, naturally thinking these had no connection with an oculist's work. But inquiry soon elicited the information that her flatulent dyspepsia ("wind colic" as she called it) was her greatest trouble, and that her life for at least 20 years had thereby been rendered most wretched. At once upon entering I noticed the constant eructations which were very unpleasant and continuous. The knowledge of the fact of the disgust excited in others, together with the disease itself had rendered her very despondent and subject to melancholia. There were evident lassitude, prostration, a look of suffering in the countenance. She complianed of a constant "load on her stomach," and of loss of appetite, which last had been a great cause of weakness and debility. In the past 20 years she had had the services of several excellent physicians and had taken a great deal of many different medicines, all without relief. The least conversation with the woman showed the complete absence of any hysterical element. She had healthy parents, and had been a plucky, hard-working woman all her life, enduring and fighting her affliction with a heroism that few would under like circumstances have shown.

I was put upon the track of my diagnosis by the following fact: When I put her in position to examine her eyes with the ophthalmoscope, the unpleasant eructations were as usual constantly taking place; but, upon throwing the light from the mirror full into the eye, such as instantaneous and frightful paroxsymal attack took place that I hastily ran for a vessel, convinced that violent emesis was taking place. But it was only flatus. A repetition of the attempt had the same result, and I had to give it up; but the thought at once came to me that I now had to do with a reflex neurosis. To be brief: I found her refractive error indicated by the following combination: For Distance:—R, Sph.—0.25 D.,=Cyl.+0.75 D. Ax. 110°; L., Sph.—0.25 D.,=Cyl.+1.00 D. Ax. 70°. The presbyopic correction was Sph.+1.50 D. added to the above. It was highly interesting to notice that the application of the distant glasses, in the trial-frame, as effectually quieted the gastric volcano as the ophthalmoscopic mirror had previously aroused. So long as the

lenses were in place, no eructations took place; the effect was so pleasant she was unwilling to have them removed, but when this finally became necessary the eructations instantly recommenced. On November 24, having procured and worn the prescribed glasses, ad interim, my patient returned, saying she had had none of her old symptoms during the time she had worn the glasses. I remarked a look of zest and happiness in her face in marked contrast to that of her first visit. Her appetite had greatly improved, the "load" had disappeared from her stomach; she had had no "belching"; the headache and the lassitude had disappeared; she had been heard to sing at her work, and all her friends remarked the change in her appearance. She said she could not leave the glasses off a minute without trouble. Without apprising her, I fixed her gaze upon small distant letters, so as to put the accommodation to a tension, and, while thus looking, I suddenly raised the glasses away from her face, and like a flash the eructations broke forth. I dropped the glasses, and they disappeared. Here was evidently as pure an example of neurotic reflex as one could wish. The improvement in health and the complete absence of gastric, cerebral and psychological symptoms continues up to the present time.

Case III.—Cardiac Palpitation, etc, relieved by Correction of Astigmatism.—I am indebted for the following notes to the courtesy of Dr. A. P. Brubaker, of Philadelphia, and Dr. Lewis H. Taylor, of Wilkesbarre, Pa. The patient was referred to me by Dr. Brubaker, but could not stop in Philadelphia sufficiently long to undergo examination and treatment of the eyes, which were carried out by Dr. Taylor.

Mrs. J. N., aged 24, married, without children, had enjoyed good health until during the summer of 1887, when, following a great deal of reading at night, she was troubled with severe pain and burning sensations in the eyes. Shortly after this, she began noticing how rapidily her heart was beating, and this symptom increased until the heart's action numbered as high as 130 strokes a minute. Then began a decline in health, with loss of appetite, feeble digestion and nervousness. She soon lost something over 20 pounds in body weight. When seen by Dr. Brubaker in the spring of 1888, the rapidity of the cardiac action was still as great as ever, and slight cardiac enlargement was noted. She was placed upon the tincture of aconite for several weeks, without deriving any benefit from it. I should have added that treatment by other physicians prior to consulting Dr. Brubaker had also proved ineffectual in relief of the palpitation. On June 12, 13, and 14, Dr. Taylor tested the refraction, etc., of her eyes under atropia, and prescribed, for constant use, the following glasses: R. Cyl.—0.75 D. Ax. 1.80°, ⌣Cyl.+ 0.25 D. Ax. 90°; L. Cyl.—0.75 D. Ax, 1.80°. Upon wearing the spectacles the rapid action of the heart began at once to subside, and within two or three months all the symptoms, ocular, cerebral and cardiac, had passed away, the heart's action had become entirely normal, the body had regained its entire loss of flesh, health, etc.

Remarks.—To understand these cases and bring them under a common law we may be helped by likening the nervous system to the switch-board of a great telegraph-office. With every plug properly in place, every wire ends so that its messages are shunted to the proper table and operator and the out-going answers correspond to the call made. This corresponds to the physiological condition of the body when response is rightly co-ordinated to stimulus; when an outflow of saliva follows the placing of a sapid substance upon the tongue, when the capillaries expand by friction, when motion, secretion etc., are the correspondent consequences of stimulus. If a careless or ignorant hand misplace a key of the telegraph switch-board there is chaos in the office, the messages do not reach the proper instruments, and replies are sent to the wrong far-away stations. Reflex neuroses are precisely such results in the body; the return messages do not reach the point of irritation, but some non-irritated organ which must then vicariously suffer for the sins of another.

Those who reluctantly admit the possibilities of reflex neuroses, say that they cannot take place unless intermediated by centers in topographical proximity. They would say, for example, that an irritational strain of the oculo-motor could not result in choreic discharges from the phrenic or pneumogastric or cardiac centers, because of the distance of the "jump" or transfer. But may it not be that distance has little or nothing to do with the matter? This is not a saltation of the electric spark across a blank or insulated space. The number of associate fibers between centers is of course proportional to the functional relations of their peripherally located co-related mechanisms; but no center is wholly disconnected from any other, though the fact may not be anatomically demonstrated. The brain is certainly an organic unity and this is only possible by the means of myriads of commissural fibers proceeding almost everywhither and binding all ganglia together directly or indirectly. It is well established that chorea of the extremities may be caused by phimosis or other genital derangement, by a carious or impacted tooth, etc., and yet the Rolandic centers are far removed from those of other organs. In place of topographical proximity, may there not be another law having a much more dominant power, that is, the law, or a corollary of the law, of the conservation of energy? Every irritational stimulus that from a peripheral organ proceeds inward may be viewed primarily in its dynamic aspect; it is force, and its function is to bring about another discharge of force whose nature and outgoing should correspond to the want indicated by the stimulus. If it is so correspondent, it is physiological; if it is not so, it is pathological, it is a reflex neurosis. But again this derouted discharge is also subject to the law that it must follow along the the line of least resistance, and in accordance with this, its outlet will lead to those muscles and functions most frequently set in motion. May it not be that sometimes when these channels become to small too drain off the overflow, other and greater centers are inundated, and that chorea thereby may even pass over into epilepsy? When slight irritational stumuli do not find such outlets, a general irritability and motility give vent and relief; a man with the toothache will walk the floor, a boy with "acute digestion" will writhe and dance, a girl with eye-strain is restless and inattentive, etc.

This overflow of unutilizable stimulus may according to peculiarities or habits become a tic, a strange habit of gesture, a chorea of the extremities, or, as it seems may have been true in my cases, what might analogically be called a chorea of the diaphragm, or a chorea of the cardiac muscle. But, whatever the explanation, such cases over-looked every day are doubtless more frequent than we suspect. This must be true when we think of the growing complexity of strain and nervous disease consequent upon our high pressure civilization. Such deroutation and irregularity of outflow cannot help constituting in the future a prolific source of pathologic facts,—but a no less fertile source of brilliant therapeutics for the intuition and art sufficiently subtile and far seeing to track out the hidden and distant fons et origo mali.

There can be no doubt that eye-strain is far above all others the one preponderant source of irritational neurosis. The incredulous smile at the hobby riding specialist must give way to facts and the logi of facts. Here is a mechanism the most delicate, and moved by the slightest forces, of any in the organism; it is the most complexly constructed of all, its function the most important of all and the most used of all; its nuclear associations are the most wide, intimate and direct with all other centers, and every process of thought or emotion is inextricably bound up with its functions and memories; language and intellect may be justly considered its products. And yet with all this, it must be remembered that within one or two centuries this wonderful mechanism is put to a strain for which it was never planned and to which in its evolution or history it has never been subjected. I allude, of course, to the persistent exercise at near range that is the necessary outcome of the art of printing, of schools, of commercial-

ism, of urban life—in a word, of nineteenth century civilization. The natural eye is hyperopic and nature so forms it now. Ocular disease is growing as fast or faster than civilization. The sudden strain does not give time for the adaptation, even if one of these adaptations, myopia, be not a disease itself. If the naturally hyperopic eye, with nature's customary obstinacy persist in its hyperopia, and if in addition, corneal asymmetry (astigmatism) be superadded, even muscular insufficiency—then there can be but one result of the forced work at short range to which every servant of civilization is subjected. Unless every ametropic child have its ametropia corrected, either ocular disease, cerebral disease or reflex neurosis must ensue. This seems a certain result of the law of the conservation and equivalence of force. Pathology is but disordered, unregulated physics and physiology. In fact, the ophthalmic surgeon has not ridden his hobby half hard enough. He has been frightened by a sneer. If held "well in hand," his horse will not be winded. My own limited experience has convinced me that many general physicians are strangely obstinate in ignoring ocular strain, for years drugging their patients with bromides, iron and tonics, for cerebral or gastric derangements that disappear as if by magic when the eye-strain is relieved. Cases of tragic suffering due to such mistaken diagnosis are constantly turning up.

The cases I have described are all examples. Even where eye strain is acknowledged to cause such necroses, it is thought that several diopters are necessary to set up the trouble. On the contrary, I have had cases where one-half and even one-fourth of one diopter is quite sufficient. Neither can such quantities be diagnosticated by the ophthalmoscope. To me the report from a hasty ophthalmoscopic examination that no eye-strain exists, is *per se* an evidence either of ignorance, or carelessness, or worse.

I have intimated that in my view the three cases described are essentially alike in cause and method of production: the chorea proper, the flatulent dyspepsia and the cardiac neurosis were all due to a perripheral irritation, eye-strain, that, derouted in its reflex course, returned somehow, directly or indirectly to other organs than to those concerned in the irritational stimulus. For other illustrations of this proceeding, see the excellent article of Professor Brubaker, The Reflex Neuroses of Dental Pathology in "Lea's American System of Dentistry." There is no logical reason for limiting the term chorea to certain muscles, and a chorea of the diaphragm or of the heart muscle may prove as essentially justified as one of the hand or foot.

As regards the details of the cases cited there is little to be objected to in the first case. It was a typical case of chorea, wholly uninfluenced by arsenic, and yielding quickly and completely when the irritational strain was removed. It may be said of the second case that too much is proved, because the 20 years of functional derangement must inevitably have set up organic changes that would not disappear in a day. I can only answer that the most brutal fact is worth more than the most beautiful theory; that the case is accurately reported; that a study of the symptoms, etc., seemed to show me that the gastric derangement was not due to imperfect secretion, was not chemical or organic, but was due to a spasmodic action of the diaphragm or of the muscular walls of the stomach. The fact, however, may bear other explanations, which I leave to others to give. As to the third case it may be true that the cardiac acceleration was due to a stoppage of the normal inhibition of its rhythm, and not to a positive increase of its innervation. In this case the force of the derouted reflex would find its own force neutralized in overcoming the cerebral inhibition.—*Med. and Surg. Reporter.*

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## WHAT IS A DISEASED OVARY?

Since the establishment of oophorectomy as a recognized operation, many pathologists have testified to the hopelessly disorganized condition of the structures which the surgeon has removed. Tubal disease, once consider-

ed a pathological curiosity, has been proved to exist as a common disorder by the researches of Drs. Kingston Fowlew and Lewers. Forms of oophoritis, destructive to the ovary at least,if not also prejudicial to the organism, have been revealed by diligent and unbiassed pathologists. Gynecologists of the older school mostly admit the result of these decoveries, but maintain that the frequency of signs of chronic ovarian diseases in the bodies of subjects who have died of other affections counterindicates radical operations, or indeed any operation at all. The oophoritis, or salpingitis, detected in these cases clearly failed to kill the patients,and evidence that medical relief was sought is ever defective. The specialists, however, note the hopelessly diseased condition of the ovaries, as corresponding to authentic clinical histories of bad symptoms, difinite and objective, as well as subjective. They declare that cases believed to be cured by expectant treatment have applied to them for relief which was afforded them by oophorectomy. Thye further imply an imperfectly recognized motive—want of surgical confidence—in their opponents. No honest member of our profession can doubt that the older school are justified in insisting upon a close scrutiny of the results of operations for chronic diseases of the tube and ovary. The great operating specialists freely publish their results; but it is, in the present stage of our knowledge, extremely advisable that the inexperienced should abstain from these operations. Above all, science must throw more light on oophoritis. Dr. Nagel, of Berlin, is, therefore, to be congratulated on having published in the last part of the thirty-first volume of the *Archiv f. Gynakologie* an article entitled "Contribution to the Anatomy of Healthy and diseased Ovaries." The clinical material was chiefly supplied by Professor Gusserow.

Dr. Nagel does not believe in the chronic follicular oophoritis of certain pathologists. He considers that the conditionsimply implies an unusual number of follicles in a healthy ovary as an individual peculiarity.The follicles at least, are normal, however the condition of the stroma may be disputed; and his researches show that morbid changes in the stroma do not affect the follicles for a long time, but ultimately cause their disappearance. They cannot proliferate by any morbid process. Nor does Dr. Nagel lay any stress on "hydrops folliculi." Follicles over a centimeter and a half in diameter he found perfectly healthy, bearing ova. A large follicle, bearing its usual epithelium, but without its ovum, represents a degenerate condition, and cannot develop into a cystic tumor nor take any active part in the development of such a tumor. On the other hand, Dr. Nagel gives reasons why we may conclude that simple cysts of the ovary are generally cystic degenerations of the corpus luteum.

Oophoritis, however, he holds to be essentially interstitial, and he concludes; after examining a series of ovaries, that in all cases, directly an ovary becomes diseased, the interstitial tissue between the follicles, that is to say the stroma, is first attacked. The follicles retain their normal appearance, and continue to bear and nourish healthy ova for a remarkably long period after the onset of oophoritis. As Slaviansky has already indicated, the follicles begin to wither directly the morbid changes in the stroma have reached a certain limit. The atrophy is in some cases active, in others passive. As a rule, circumscribed peritonitis is the cause of the disease, which progresses from the surface of the oaary inward. Dr. Nagel has, however,detected one case of true acute interstitial oophoritis as a primary disease. This form leads to Kiwish and Klob's "hypertrophy with sclerosis," where the ovary can grow as large as a goose egg, its surface appearing like a mulberry.

Dr. Nagel cancludes that the later stages of oophritis represent an incurable condition; and that operation is justified for the removal of ovaries so affected. The operator must, however, bear in mind his important observations, which tend to prove that every ovary a little fuller than he thinks it should be is not necessarily morbid, and that a cystic projection from the surface or a small ovary is not

sufficient evidence that it ought to be removed. The histologist, too, would do well to study the healthy human ovary from its earliest stage of development to its normal condition of atrophy after the menopause, and to teach what he sees to his pupils. Many errors have gained ground through teaching students the histology of the ovary from specimens taken from the lower mammalia, where the sexual physiology is by no means the same as in woman.—Ed. *Brit. Med. Jour.*

## A DOCTRINE OF PUBLIC POLICY.

Another legal decision of interest to physicians, has just been announced in this city, and as it is the first of the kind coming before the courts, and will now be accepted as a precedent, we hasten to give our readers the benefit. The suit was brought to recover fees for consultation rendered by a physician while at a distance, the consultant in the case being the patient's own regular attendant, while the temporary attendant was a physician unacquainted with the previous ailments, and asked the regular attendant for advice in the matter as the patient's case assumed a grave form. The patient died at the end of three weeks, during the absence of his sister, his only surviving relative, who was at the time travelling on the continent of Europe. As residuary legatee, the sister not only refused to pay the consultant's fees, but roundly abused both him and his confrere, and like many other doctors, there was nothing for him to do but bow himself out and enter his claim for collection according to law.

At the adjudication of the case before the Orphan's Court, counsel insisted that although the patient may not have been competent to decide as to the need for consultation during his illness, he was in such a condition when the attendant first saw him, and the auditing judge decided that the consultant having no contract to show was not entitled to recover, as the physician first called had no authority to employ him. An appeal was taken, and on the first of the present month an opinion was delivered by Judge Ashman, reversing the decision of the auditing judge, and allowing the amount claimed on the ground that it was the doctrine of public policy. The judge said: "If the right, in the consulting physician, to compensation for his services, is without legal merit, then the law is a reproach to conscience. That it has not been passed upon hitherto means nothing, or rather, it means that it has never been questioned, any more than the right of the physician to charge his patient with the drugs he has purchased, or the nurse he has hired for him, when drugs and nursing were indispensable to his recovery."—*Med. Reg.*

Cinchona and its Rivals.—The amount of cinchona bark exported from India continues to increase, and reached a total of nearly one and a half million pounds last year; nearly all of this came from Madras, as the bark produced in the Government plantations in Bengal is manufactured for Indian consumption. Drs. Arata and Canzoneri have made a chemical examination of the bark of the *Cascarilla morada*, which is reported to possess therapeutic properties resembling those of cinchona. It is found in the northern provinces of the Argentine Republic, and in some parts of Bolivia. They state that the bark contains an alkaloid, for which they propose the name moradeina. It also contains another principle, which crystalizes in colorless needles or prisms, and has acid properties, though it does not form stable compounds with alkalies.—*Brit. Med. Journal.*

Insect Instinct and Adulteration.—Bees are said by the *Lancet* to be unerring connoisseurs of saccharine substances. To the human palate cane sugar, beet-root sugar and saccharin are pretty much alike, but bees will have nothing to do with the last two. They are partial to glycerine, but discriminate against impure samples. What is wanted in the country is an insect that will instruct inmates of hotels and boarding-houses in the mysteries of the butter-dish.

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## REPORT ON PROGRESS.

### CURRENT LITERATURE ON GYNECOLOGY WITH ANNOTATIONS.

BY Y. H. BOND, M.D.

THE DIAGNOSIS OF ABDOMINAL TUMORS.
THE ACTION OF CERTAIN DRUGS ON THE UTERO OVARIAN SYSTEM.
THE LOCAL TREATMENT OF UTERINE DISEASE.
TECHNIQUE OF VAGINAL HYSTERECTOMY.

### THE DIAGNOSIS OF ABDOMINAL TUMORS.

Minkowski (*Berl. klin. Wochenschrift*, 1888, No. 31) speaks highly of the artificial distention of the stomach and colon (the former with carbonic acid gas, the latter with water) as an aid in recognizing the exact relations of abdominal tumors, as practised by Naunyn in over one hundred cases. The stomach is first inflated by the introduction into it of bicarbonate of soda and tartaric acid, and the resulting displacement of the tumor is carefully noted. The gas is then withdrawn through a stomach-tube, and the colon is distended with water, the relative positions of the intestine and tumor being observed. As a result of a large series of observations the writer infers that when the stomach and large intestines are hyper-distended they displace the tumor toward the normal site of the organ from which it springs. Cases are cited in which the origin of hepatic, splenic, pancreatic and ovarian neoplasms was thus ascertained.

Another aid in the differential diagnosis is the inspection of the abdomen from the side, whereby the examiner is able to note the point of greatest protrusion, as at the edge of the ribs on the right side in a case of hepatic tumor, in the lumbar region in a case of enlarged kidney, etc. The abnormal protrusion of the artificially distended colon over a renal colon is also to be noted. Minkowski considers the excursions of the tumor with the respiratory movements as an important point. After a deep inspiration the examiner fixes the enlargement; on expiration a hepatic tumor will be drawn upward with the diaphragm in spite of the efforts to restrain it. Neoplasms springing from the other abdominal viscera, if they are not adherent to the liver, can be prevented from rising during expiration.—*Am. Jour. Med. Sci.*

[The diagnosis of abdominal tumors in most instances is involved in so much of doubt and uncertainty that no promising means of obtaining light upon such cases should be permitted to escape our notice. The methods indicated above are certainly not without a measure of worth in some cases and therefore should be borne in mind in this relation.]

### THE ACTION OF CERTAIN DRUGS ON THE UTERO-OVARIAN SYSTEM.

Therapeutists have not failed to assign to certain drugs an elective agency over the utero-ovarian system. It has been my lot to experience disappointment in this respect so uniformly that I produce with pleasure the observations in this regard of Lombe Atthill, as given in the *Am. Jour. of Med. Sci.* He discusses the question, whether the ordinary drugs which are supposed to exert a direct action upon the uterus have any influence on the menstrual flow. Ergot, strychnine and quinine were administered with negative re-

sults; the natural inference being that either these drugs did not cause contraction of the uterine muscle, or if this contraction occurred it had no effect on menstruation. Purgatives, such as aloes, can not be regarded as true emmenagogues. The writer has no faith in permanganate of potassium, which has been followed by no results whatever in his hands.

For the relief of ovarian congestion without actual disease of the ovaries, attended by menorrhagia, he has found the bromides especially valuable. Their administration must be begun five or six days before the period begins, thirty grains being given thrice daily. Ergot does not increase their efficiency. The latter drug (Squibb's) is the only one on which reliance can be placed in cases of hemorrhage due to intra-mural (not pedunculated) fibroids, but its action is uncertain. Hemorrhage due to malignant disease can not be checked by drugs administered internally.

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## Local Treatment in Uterine Disease.

In the course of a report on progress in gynecology by Dr. A. B. Carpenter, of Cleveland, Ohio, read before the Cuyahoga Medical Society, the following pertinent observations on "Local Treatment of Uterine Diseases" are indulged in:

"What constitutes local treatment and what are the conditions that justify its application? More women, it is safe to say, have been humbugged and more money taken from the pockets of long suffering husbands under the pretext that the patient has uterine trouble, than perhaps all other ills that female flesh is heir to. Local treatment consists in the application of proper agents to the vagina, cervix and uterine canal, but before this there must be a clear and well defined idea as to what is to be accomplished.

The entire armamentarium of many a good physician for the treatment of uterine disease consists of a single bottle of tincture of iodine and a glycerine plug. The patient is charged to take a hot douche and the work is complete. Is this not true? The glycerine tampon is falling into disrepute, and the almost universal custom of prescribing hot water is fast losing favor. Many women undergo local treatment when it has no bearing whatever on the case. They patiently submit to the tampon iodine swab and hot water douche, hoping and anxiously expecting the return of health that in many cases never comes. There are many conditions where nothing but surgical aid will be of the slightest avail. What benefit can a patient derive from local treatment when suffering from a distended tube, a displaced ovary bound down by adhesions, or a vagina, the outlet so large that a child at full term can make its exit with scarcely a single pain? Local treatment has been done to death.

Another bit of routine advice, and given by men high in the profession, is the pregnancy one. Not a few women are carried along with the assurance that with the advent of pregnancy they will again be restored to health. I should here like to relate a case that occurred in my practice during the past summer. A lady of intelligence consulted me for some supposed uterine trouble, and said in the course of my inquiries that she had been treated by Dr. —— for two years; that he told her if she could become pregnant, her bad symptoms and feelings would be relieved. She stated to me that she had suffered from an abortion four months ago, and was confined to her bed for over three months at that time, and had had from time to time since a nasty discharge that emitted a very bad odor. An examination revealed a case of tubal disease, both tubes being involved and distended; the left ovary exceedingly tender down behind the uterus and fixed by adhesions. I venture to predict that nothing short of immaculate conception will ever cause this woman to bear a child. Physicians who give this sort of advice seem to be entirely unmindful that prescriptions of this kind cause these patients to submit to a condition of affairs that is not only injurious and painful but in not a few instances brutal. Pregnancy as a curative agency, except, per-

haps, in the case of nurotic childless women, is a failure, the advice bad, and the results not what are represented and should not be given.—*Cleveland Med. Gaz.*

[So great and general have been the abuses in this direction, that one would scarcely be considered as wanting in a due regard for truth or conservative expression, should he be guilty of making the statement that in the entire domain of medicine no field has been more basely cultivated, or more subject to the instincts of fraud and deception. In no direction of the healing art has ignorance been more wantonly exercised, or avarice more heartlessly practiced.]

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## Technique of Hysterectomy.

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[The various modes of doing vaginal hysterectomy have now been practiced in a sufficiently large number of cases, and the results attending the several variations of the same, noted with a degree of accuracy quite requisite to a conclusion, as to the most desirable technique to be observed in the average condition calling for the operation. The experience of those gynecologists who have ventured to depart from Martin's tedious and difficult nicety of procedure in favor of ways commended by greater simplicity, ease and rapidity of execution has been such as to justify the departure. Of the many communications on the "Technique of Vaginal Hysterectomy" that I have read none have impressed me as being more lucid and acceptable than that of Dr. James B. Hunter, of New York city, contained in the *Med. Rec.*, of Feb. 9, 1889.]

He says: In order that a capital operation shall commend itself to the profession two facts must be demonstrated in regard to it: First, the immediate mortality from the operation must be small; second, the results, immediate and remote, must be such as to show that the benefit to the patient is sufficient to compensate for the risks incurred. In regard to vaginal hysterectomy, ample evidence as to the second point has already been furnished by foreign writers; most recently by Secheyron. It may be assumed, therefore, that vaginal hysterectomy in suitable cases of malignant disease of the uterus has taken its place among the justifiable operations. My purpose is to deal chiefly with the first point,and to show that the operation may be so performed as to render the mortality very small. If it can be shown that the more radical operation entails but little more risk than does a high amputation, few surgeons would hesitate as to which operation should be performed. It may be mentioned here that in all capital operations statistics based upon a small number of cases have very little value. The more difficult the operation, the greater will be the mortality in the earlier operations of every surgeon. Experience counts very largely in such operations as vaginal hysterectomy.

The immediate dangers of this operation are shock, hemorrhage, peritonitis, and septicemia. Many of the operations reported have occupied a long time, some of them more than two hours, and some nearly four. In such cases shock is very apt to follow. Rapidity may be considered an important element in all serious gynecological operations. A study of the cases of hysterectomy reported by the Germans, notably Martin, will show that the cases in which the patients succumbed to shock were those in which the operation was prolonged from one and a half to three hours. Much of the time lost is occupied in securing the important vessels by ligature. Pean certainly conferred a great benefit on surgery when he demonstrated the application of the hemostatic forceps to vaginal hysterectomy; and it may be noted here that his claims are prior to those of Iichelot. I shall attempt to show that, both theoretically and practically, the forceps in this operation have a vast advantage over any form of ligature. I have now used the forceps for the principal vessels in eleven cases of vaginal hysterectomy in the New York Cancer Hospital, with two deaths, one from acute Bright's disease, and one from secondary hemorrhage in consequence of an imperfect forcep. In eight cases I have used no

ligatures of any kind. The method of using the forceps will be made more clear if the other steps of the operation are described somewhat in detail.

The first steps of the operation are substantially the same whether the forceps or ligature is to be employed. One assistant should stand on the right of the operator, and on him devolves the chief responsibility. A second assistant, or an experienced nurse, is seated on the left of the operator, to hold the speculum and do anything else that may be necessary. The instruments are placed on a low table, within reach of the operator and his chief assistant. One nurse is assigned the sole duty of caring for the sponges. I prefer to have the patient on the back, brought well down to the edge of the table, the limbs being flexed and supported by assistant, or by the crutch, as in operations on the peritoneum. The largest Sims speculum is then introduced, after thorough irrigation with a two per cent. creoline solution The uterus is then drawn down by Bernay's uterotractor. By pushing it back in place the line of union between the vagina and cervix is made clear, and at this line the incision begins, the uterus being first drawn downward and backward. Broad retractors are useful in some cases for lateral separations. With a curved, blunt-pointed scissors the bladder is carefully separated from its attachment, a sound being kept all the while in the bladder, mamipulated by the chief assistant. The finger is then passed up until the peritoneum is reached, when that part of the operation is abandoned, the peritoneum not having been opened. The uterus is then drawn forward, and a similar dissection is made on the rectal side. It is not important whether the anterior or posterior section is made first, but it is easier generally to do it in the order described. The next step is the separation of the lateral attachments. It is well to cut very cautiously here, and also with scissors, lest the uterine artery be prematurely severed. The peritoneum may now be separated anteriorly, and the finger made to reach the upper border of the broad ligament on one side. At this stage of the operation, I usually pass a strong silk ligature temporarily over the broad ligament, by means of my projecting needle, and can thus control the upper border and draw it down in applying the second forceps. The forceps are then applied close to the uterus, and in such a manner as to include only the uterine artery. The handles of the forceps when properly placed should be tied with silk, to guard against the possibility of their becoming loose. The tissue included in the forceps may then be cut close to the uterus, the operator watching carefully for hemorrhage. A second forceps is then applied higher, and made to include the remainder of the broad ligament and the ovarian artery. The same process may then be repeated on the opposite side. An attempt may then be made, by seizing the fundus with a large hook, to antevert the uterus. The utero-socral ligaments usually need to be divided at this stage of the operation, and may be seized with a long forceps before division. It is well to seize every bleeding point, artery, or vein, with forceps, some of which may be removed when the operation is complete. According to circumstances, the uterus may be drawn down in the axis of the vagina, or it may be anteverted, or retroverted. The four forceps guarding the important vessels should all be secured by tying the handles, after they are properly applied. The danger of prolapse of the intestines during the operation has been greatly exaggerated. Ordinarily they do not come into view at all. If, at any stage of the operation, the ovaries or tubes are seen, it is better to remove them, using a silk ligature, or, if practicable, a light forceps. The vagina is then lightly packed around and between the forceps with creoline, or iodoform gauze. The use of styptic cotton at this stage is objectionable, as it is very hard to remove, and leaves an ugly cavity. If gauze or cotton in small quantity is passed up high, it should always be secured by strings to make sure of its easy removal. The projecting handles are enveloped in a mass of cotton, and so supported that they cannot drag

or cause pain. If there is a sufficient supply and variety of forceps in readiness, ligatures will very seldom be necessary, nor will there be much opportunity for using the cautery, which I have never yet had occasion to employ in this operation. The danger of injuring the peritoneum or intestines is greater with the cautery than with other means. The patient is then put to bed and treated as after any serious operation. The bladder is emptied by the catheter at proper intervals. The bowels are moved on the third day, generally by means of three or four half-grain doses of calomel, in triturated form, given at intervals of an hour, and followed by a saline aperient, usually a seidlitz powder. The absence of pain after this operation is somewhat remarkable, and morphine or other anodynes are rarely necessary. Light nourishment, as milk and lime-water, milk and Vichy, koumyss, or peptonized milk, is given as soon as the stomach will tolerate it, which is generally from twelve to twenty-four hours after the operation. The forceps are removed after thirty-six hours; those which are applied to the large vessels, being tied, can be distinguished from the others and remeved last. It is often necessary to leave in the vagina six or eight, or even ten pairs of forceps. In one case, which did remarkably well, I left fourteen pairs attached. As the instruments give some annoyance by their weight and bulk, those which are attached to the less important points may be removed at the end of twenty-four hours. No force is necessary to remove the forceps, which usually come away almost of themselves as soon as they are unclasped. Sometimes a very slight rotary movement is necessary to detach them. The least important forceps should be removed first, and those securing the large vessels last. When the latter are removed, the gauze is carefully withdrawn, and fresh gauze put in its place. It will be found, practically, that the margins of the peritoneum fall together of themselves and close the opening. No sutures are necessary for the purpose of uniting the edges of either peritoneum or vagina. When the forceps are removed there is generally some discharge, and the gauze is often saturated with a serous fluid without odor. No injections should be used at this time, nor should the speculum be introduced, or any vaginal examination made, without some special reason. A light tampon of gauze is then introduced, unless there is a free or offensive discharge. If proper care be taken there need be no erosion or irritation of the vulva by the forceps. This is a very important point as concerning the subsequent comfort of the patient.

During the first week a light tampon of gauze is introduced once a day to give support to the vagina and to insure drainage. In no one of my cases has there been any hemorrhage whatever after the forceps were removed. No vaginal injections should be given till after two days. There has seldom been any rise of temperature, there has been no peritonitis in any case, and no septicemia. In some of these cases a large friable mass, the epitheliomatous cervix, has been broken down in the vagina during its removal, but in no case has there been any evidence of infection from that cause. At the end of the first week the discharge becomes very slight, and a digital examination shows a small opening in the vault of the vagina, barely admitting the finger. At the end of the second week there will be felt merely a puckered cicatrix, which in time becomes still smaller and closes entirely. I have never known any fistulous opening to remain. Healthy granulation has always taken place. The patients are allowed to sit up in bed at the end of the second week, and to get up at the end of the third week. One patient left for her home, at a distance, exactly three weeks from the day of the operation. All injections have been discontinued at the end of the third week, and no subsequent treatment has been necessary. When there has been any sign of a recurrence, it has been in the edge of the wound, at a point easily accessible for treatment. In this particular there is an advantage over the operation of high amputation, in which recurrence is not so easily detected, or treated when it does occur. Adhe-

sion of the intestines to the wound has been reported in three cases. It has not occurred in any of my cases, and seems no more likely to occur after vaginal hysterectomy than after an ordinary laparotomy. Every precaution is taken to render the operation aseptic, but on account of the condition of the cervix this is often impossible. There has, however, been no evidence, in any case, of infection from that cause. There has been no prolapse of the intestine, and there has been no case of septicemia. The evidence has all been in favor of the fact that shortening the operation lessens the danger of shock. The patients who recovered had all a remarkably easy and uneventful convalescence.

It may be safely said in favor of the use of the forceps in vaginal hysterectomy, that they save time, that they are easier of application than ligature, and that they make more firm and permanent compression. In one case in which I used the ligatures, they did not come away for three weeks, and very much interfered with the process of healing. The forceps also favor drainage at the time when it is most necessary. Their removal causes no pain, and requires the use of very little force. There is less danger of injuring the uterus with the forceps than with the ligatures, as they can be applied more closely to the uterus. In using the ligature on the broad ligament there is always a possibility of retraction, and in the operation in question it is exceedingly difficult to reach the broad ligament when it has retracted. More traction on the tissues is required in applying a ligature than in applying the forceps.

Finally, to the inexperienced operator—and there must always be some inexperienced—the forceps offer a much better prospect of success than the ligature, as less skill is necessary for their application.

I have used a variety of forceps, including those of Richelot, but now prefer a strong Tait's forceps to any other. I am satisfied that it is better not to attempt to include the whole broad ligament in one instrument. Two small forceps are better than one large one, and are much more easily applied.

## ORIGINAL ARTICLES.

### COMPLETE INVERSION OF THE UTERUS COMPLICATED BY PUERPERAL TETANUS.

BY HUGO AULER, M.D., OF ST. LOUIS.

Read before the St. Louis Medical Society.

If I present to your kind attention my case of a complete inversion of the uterus; it is because complete inversions occur so rarely and that it therefore becomes a manifest duty to bring such cases to the cognizance of all. In my twenty-four years of practical medical experience I have had only this single case to record.

As you are all aware, a complete inversion of the uterus means that condition in which the base as well as the body of the uterus with its cavity descends through the open mouth the womb into the vagina, and from thence protrudes out of the rima pudendi or external organs of generation. It is evident that the inner and upper surface of the womb will now be external and far below. The external peritoneal covering of the womb is now the internal covering of the cavity of the inverted uterus. If we wish to look at the differential diagnosis of this abnormal condition of the womb we may do well to formulate three different grades of inversion.

1. An intussusceptic uteri or depressic uteri a depression of the fundus of the uterus; a state which is probably identical with an after labor pain. An exploratory examination may prove that such a condition exists (although practical results as to its value may give but little satisfaction).

2. Incomplete inversion of the womb. Is that condition in which the base or fundus of the womb descends through the os uteri, rests within the vagina, where it can be felt as being surrounded by the mouth of the womb and presents an uneven, slippery, bleeding hemisphere or bag, making the impression as if a fetal head had just passed through the os uteri. (It is possible that the after birth is attached to the partially inverted uterus; if

so, it may be important to first reduce the womb to its normal position and thereafter remove the after-birt .

3. The case demanding our present consideration, a complete inversion of the uterus, in which condition the womb is completely turned, as it were inside out, protruding from out of the genitals and placed between the thighs as far as the knees, where it presents itself to view as a roundish, soft, porous, hollow and bleeding body, fully as large, if not larger than a fully developed, newly born infant's head. If we seek for the os uteri we will fail to find it. The vagina, it is evident, is also inverted, and as we extend our examination over the lower abdominal walls we will have the characteristic impression as if the abdomen felt flat and empty. It is more than obvious that the hemorhage from an inverted uterus may speedily prove fatal.

The objective symptoms of a comple inversion of the uterus are almost necessarily a severe nervous shock, concommitant with nausea, vomiting, faintness and not unfrequently a very speedy death closes the sad scene.

The subjective symptoms, are: Very severe bearing down pains, characterized by the patient in her statement, that her abdominal organs feel as if there were drawn out of her.

A complete inversion of the uterus is invariably brought about suddenly and occurs immediately after delivery, just as it does outside of the labor period, when it is combined with a prolapsus or falling down of the womb. It again may occur after an abortion of four months, or a few days after parturition. (Right here we may concieve a previous state of depression of the uterus). Lastly (according to circumstances) an inversion may occur very gradually in consequence of a fibroid polypus attached to the fundus, the uterus not being pregnant.

These cases have been doubted, although cases have been recorded supporting this idea of gradual inversion. The constriction of the inverted uterus causes inflammation with the gradual spread of the inflammatory process thus including the ovaries, bladder, colon and peritoneum, and ending in dissolution. Should, however, recovery set in, with the uterus in its abnormal condition the natural result will be that the ovaries, fallopian tubes and intestines, will be placed in such abnormal positions as to entail upon the unfortunate sufferer a fate worse than death.

Let us now cosider the causes. It seems to be a natural conclusion that the walls as well as the os uteri should be in a weakened or inactive state, or in other words a dilatation of the orifice of the womb and atony or flacidity of its wall, may be the predisposing causes. The exciting cause, under such condition as mentioned above, would be violent expulsive efforts, traction of the funis, especially if the after birth should be attached to the fundus; then again being delivered of a child while in a standing posture, and lastly by the funis being too short, either in itself or by being coiled around the infant. It is also said that the atony of the uterus with a large pelvis and the two rapid abstraction of the contents of the uterus may expose the patient to inversion.

I shall now simply touch upon the differentiated diagnosis of complete inversion and especially point out those cases where a remote probability may exist of confounding an inverted condition of the uterus, with polypoid growths, prolapsus and advancing infants head, mole, vaginal hernia, the birth of a monstrostity, and lastly foreign bodies in the vagina.

In considering the diagnosis of an inverted womb in contradistinction to a polypus we will araive at the following comparative results: An inversion occurs (we may consider this point almost a rule) immediately after the birth of a child. If we examin the complete inverted uterus we will find that it is broader from the lower to the upper part,distinguishing it from a polypoid growth which is broad below and grows thinner and thinner ending in a pedicle. (It may be likened to a pear with its attached stem). Again an inverted uterus is reducible. If we seek for the womb in its proper situ by palpation as well as by a digital examination through the anal

opening as also the introduction of a catheter into the bladder, we will be convinced that where the normal situ of the womb was all is now empty.

Now let us pass on to the principal criterion. The inverted fundus of the uterus is very sensitive, and if we palpate or feel the convex surface of that organ in different directions the unfortunate sufferer will accurately indicate it.

The differential diagnosis of an inverted and prolapsed uterus is easily explained. The prolapsed womb with its narrow neck and os can be felt and seen; but in an inversion the womb appears to us like a fleshy bag without any opening except perhaps far above the base, under the pubis. The head of an infant which has just escaped from the vulva has so many known characteristics that it seems almost impossible to confound an inverted uterus with the head of an infant, although, say in twin cases such an occurrence may be possible but certainly not probable. An infant's head is much harder than even a highly contracted uterus, and the fontanelles and uterus are so evident that a mistake is impossible, furthermore the head is not so sensitive, whereas the inverted uterus is sensitive.

A mole. To distinguished an inverted uterus from a mole is not difficult if we take in consideration the fact that a woman pregnant with a blighted fetus, *i. e.*, a mole with its low vitality has her abdomen enlarged very rapidly, and is generally delivered in her fourth month, or at least long before the natural term of pregnancy. There is no case on record where an inversion of the womb followed the delivery of a mole. Then, again, a mole is not sensitive, an inverted uterus being very sensitive; and, lastly, you are able to insert your finger, or a sound, high up along the vagina into the os uteri.

Lastly let us pass on to the distinguishing features of a vaginal hernia and a complete inversion of the uterus. In both conditions we have a partial retention of urine due to pressure, but, again, an inversion of the womb is very painful whilst a vaginal hernia is painless, etc. Perhaps it may be well to mention the fact that an inversion of the womb causes a decided heat, redness and swelling of the genitals; this is entirely absent in vaginal hernia.

Before proceeding any further I shall take the liberty to give you some valuable medico-historical facts bearing upon the subject before us, and then close with a short synopsis of the case I wish to record.

Celsus, who flonrished in 45 A. D. mentions a case of inverted uterus, it is doubtful if it was prolapsed, in which the uterus was removed without causing the death of the person operated on; further, it saith not!

Morgagni, celebrated in the 17th century, quotes a case of Slevagtius who took away a growth from the pudendi of a woman, which after an examination proved to be the uterus and some remains of the tubes; luckily it is stated, the woman recovered. Morgagni also mentions one "Molinelli, who states that he had amputated an inverted uterus many times, especially in old women, and always successfully. Morgagni, justly I think, doubts the veracity of Molinelli.

Henricuts ab Heer mentions the case of a mountebank who removed a growth from a woman, which upon examination proved to be the uterus and a part of the colon. Sandensus specifies a case in which an inversion of the womb existed for many weeks before death relieved the sufferer.

Genselius reports the first known case of a an inverted womb which was reduced several days after its occurrence. Bohn cites the case of a primapare who died in one hour after an inversion of the womb had been caused by the forcible traction of, presumably, the funis. Chapman speaks of a case of complete inversion of the womb which caused a still more sudden death.

Valsalva in recording some of his observations on animals mentions a bitch and a cow with an inversion of the vagina.

So much for medico-historical facts bearing on our subject. I shall now refer to Dr. H. Hunt, from Belloit, Wis., who reported a case in 1873. His report mentions

a case of spontaneous reduction of an incompletely inverted uterus eight weeks after its occurrence; repeated attempts to reduce the uterus proved futile. Patient died two years after from the effect of pulmonary hemorrhage brought about by a tubercular infiltration of the lungs. His conclusions are based upon the fact that a fatty degeneration takes place within the sixth or seventh week, thus enabling either nature or the physician to step in and cause either a spontaneous or manual reduction.

Dr. A. Voelkel, in the *Berlin Weekly Med. Jour.*, 1875, reports a case of complete inversion of the uterus, which inversion occurred 52 hours after the completion of labor and caused instantaneous death.

Dr. Mathew Duncan, at a late meeting of the Medico Chirurgical Society, of Endinburg, Feb. 15, 1877, read an interesting, thoughtful paper on "Chronic Inversion of the Uterus," in which his conclusions are summed up thus:

1. That the cervix uteri played no part in inversion.

2. That the treatment was unsettled.

Dr. Keiler, at the same meeting, showed by statictics how rare this displacement was. In 200,000 cases of labor at the Dublin Hospital, there had been only one case of inversion. He concluded with an interesting and humorous account of a trial in which he had been engaged, in which a woman brought an action of $1000 against a practitioner who had removed a chronic inverted uterus with the ècraseur. He made the somewhat startling statement, that he did not believe that inversion was caused by traction on the cord during or after delivery.

*Le Union Medicale*, Feb. 13, 1885, in recording cases of polypoid growths refers to the following somewhat interesting cases of false diagnosis: A surgeon applies the chain of the ecraseur over the neck of what he considers a polypus, removes the growth and upon examination finds that he had taken away the inverted uterus; hemorrhage ceased and the patient recovered. Petit committed the same fault. Vieussens removed the inverted uterus under similar conditions;the patient recovered and lived 10 years thereafter.

Slevogt mentioned of above Bayer and Jobert de Lambelle were also mentioned as having committed the same fault.

Dr. Forerst in the *German Archives of Gynecology*, 1883, in dwelling upon the causes of an inverted uterus mentions:

1. Inactive or weakened uterine pains causes tedious labor thus demanding the use of the forceps. Among 148 cases gathered by Dr. Lee 20 cases were classed as tedious labor, 25 cases however very short in duration.

2. The placenta adheres to the fundus uteri especially with primapare.

3. Comparative rigidity of the vaginal walls and at the same time a contraction and bearing down of the uterus causes a downward pressure of the base of the uterus. (Dr.Schatz, however, opposes this view in the statement that the laxity of the vaginal walls causes an inversion.)

4. A contracted or small vulva retards the passage of the accumulated blood, this engorgement suddenly gives away and the contracted uterus is predisposed to an inversion. An adherent placenta is frequently associated with an inversion; Lee's statistics of 148 cases shows that 67 cases were the subjects of adherent placenta of these 67 cases, 53 had to be relieved by manual aid.

So far I have taken the liberty to call your kind attention to the above reported, and it seemed to me important cases. I am fully aware that these quotations contain some contradictory evidence, especially if we observe the hyopthetical aspect of the causes of inversion. I myself am not fully prepared to take a definite stand, although, I am inclined to adopt the view of Dr. Atthill who says the cause of an inversion is due to the placenta adhering to the fundus uteri. I shall now give a short synopsis of my own case premising that not alone was this case extraordinary but highly interesting from the fact that the complete inversion was followed by puerperal tetanus.

About two and a half years ago I was re-

quested to call immediately and attend Mrs. K—, who had just given birth to a child, and was now in a dying condition. As the patient resided in my immediate vicinity I had not far to go. Upon my arrival I found the patient to be a strongly built and muscular lady who was in a state of collapse, livid, pale and in a semi conscious condition with an intermittent pulse. There were all the symptoms of shocks. The attending midwife informed me that patient was 38 years of age, mother of three children, never had any trouble at her previous confinements; that she had just been delivered easily of a child, and that the afterbirth came away without any traction of the funis. For a while all seemed well. Then on a sudden she noticed the woman felt uncomfortable, uneasy and giving vent to a spasmodic shriek, upon which she fell into a dying condition.

My examination, which I continued while receiving the above information was this: The patient lying on her back with adducted knees had protruding from out of the vulva, a round, soft, fleshy and bleeding body fully the size of an infant's head. But the impression I then received was that it was too soft even in appearance to be an infant's head. All indications were against it being a mole. That it could be a polypus I immediately doubted. I palpated the fleshy mass thoroughly upon which the patient started up and eventually cried out; I sought for an opening of the same mass but found none.

I examined of the suprapubic region, and failed to find the characteristic tumor of the contracted uterus. It was then that I felt assured (almost intuitively) that this was a case of complete inversion. I placed the patient in the usual position on the edge of the bed, and after making a re-examination, and finding the place at as near the base where the placenta had been adherent, (so it seemed to me!) as also a place which was directly beneath the pubes, which might have been the opening of the os uteri. It being thus settled in my mind, I lost no time in affecting a reduction of the inverted womb; grasping the uterus with both hands, I gently; but firmly, pushed it upward. Apparently it became smaller and smaller in my hands, then, one hand was sufficient, and finally with my fingers formed into a cone I entered the vagina, and (it seeemed to me like a sudden jerk) my hand was high up in the reduced womb. Now using my left hand which was at liberty I placed it over the suprapubic region, thereby feeling that I had really reduced the organ. Finally a contraction of the womb forced out my right hand. The patient did well, metritis was very mild, lochial discharges set in, and in ten days I ceased my visits to the patient.

After an interval of eight days I was again called to see the same patient. The informant husband told me that patient had done well, up to five days ago; that then convulsions had set in. Another physician had been called in but had been discharged. After some deliberation I again took charge of the patient; but judge of my surprise when I saw my patient again, the complete picture of a person suffering from tetanus; the muscles of the mouth even showing that peculiar expression caused by tonic spasm. A continual rigidity, especially of the dorsal muscles showed that opiothetonus was only too evident. Lochial discharge had not ceased altogether. Albumen found in the urine. Pulse quick but weak. Temperatnre 103° to 104° F., the skin, however, always being slightly moist. My brother collegue had resorted to chloroform inhalations, etc., without any avail. I myself had little or no hope of her recovery. I felt that I had a right to resort to empirical treatment. I placed patient day and night in cold packings and gave her stimulants; during eight days this was the treatment pursued. Hoping against hope, she, contrary to all expectations gradually very slowly rallied and regained her health, all within 30 days. In conclusion I wish it to be distinctly understood that it may be an open question so to whether it may be considered as a case of puerpera tetanus or whether it might be more proper to call it a tetanoid puerpal condition? It is, however, a very strange occurrance that such a rare cases as a complete inversion of the womb should be followed by the equally rare case of puerperal tetanus.

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## CHARITY HOSPITALS.

In an address recently delivered before the New York Academy of Medicine, Dr. Loomis said: "Hospitals and dispensaries so far exceed the needs of the city that there is actually a premiun on patients to fill their wards." New York is rightly called the gate-way from Europe to America. The hordes of dependents that are poured into it create a demand for charity that cannot be found elsewhere in this country. We cannot reasonably suppose that in a city where so much charity is dispensed, so many sick placed upon the free list, only those who are actually deserving receive treatment. In fact to avoid such injustice y has been formed who pledge themselves to investigate the worthiness of every applicant whose name any of the hospital authortiies may present to the Society. But even this is not sufficient to prevent the admission to free beds of some patients who are amply able to pay. This, together with the fact that many of the hospitals are forced to carry a debt from year to year, probably influenced Dr. Loomis to make the unqualified assertion that has created quite a stir in hospital circles in New York.

The *Boston Medical and Surgical Journal* has the following:

Mr. Frederiek F. Cook, general agent of the Hospital Saturday and Sunday Association, has come out with an elaborate reply in defence of these institutions. "Obviously," he says, "if what the president of the New York Academy says about our hospitals is anywhere near the truth, there is no *raison d'etre* for any such an instrumentality for hospital support as the Hospital Saturday and Sunday Association, but it is even permissible to charge it with seeking the gifts of the public under false pretenses."

He then goes on to say that the duties of his position bring him into intimate relations with at least twenty-eight of the (about) forty hospitals and homes for convalescents and incurables of the city; and inasmuch as patients are admitted to them in certain contingencies on his own recommendation, it is very necessary to a proper discharge of his duties that he should keepadvisedas to their ability to receive patients so recommended at any given time. During the past year, although he had in an almost literal sense twenty-eight hospitals at his service, he has frequently found great difficulty in placing a patient, trying first here and then there; and this, too, with cases falling into ordinary medical or surgical practice. But, not wishing that the case of the hospitals in a matter which he considers of such supreme importance to their future welfare should rest upon the statement of any single individual, however trustworthy or well informed, he has been to the pains of procuring the evidence of six or more of the leading hospitals of the city; and this he proceeds to cite.

The superintendent of the New York Hospital said: "This hospital was built to accommodate one hundred and fifty patients. Lately we had as high as one hundred and ninety two. Ten years ago the average length of stay per patient was twenty-three days. The average is now reduced to fourteen days. This is much less than it should be, but when it becomes a question between a man able to be about, though not in a condition to return to work, and another whose very existence depends on instant admission to hospital treatment, the choice is clearly made for us by compelling circumstances." The superintendent of the Mount Sinai Hospital stated that of 3912 applications last year, only 1892, less than one-half, could be admitted, on account of the lack of accommodations.

The superintendent of the German Hospital said that during the past year over 500 proper hospital cases had to be refused admission.

Having quoted similar statements from the superintendents of St. Luke's, Roosvelt, St. Francis, and the Woman's Hospital, Mr. Cook concludes as follows: "The above survey of the situation covers considerably more than half of the entire field in amount of service. With three or four exceptions, all the rest are hospitals (and most of them of limited capacity) devoted to some specialty, and I speak from a wide experience when I affirm that it is far more difficult to secure admission to them than to the larger general hospitals. In one of these specialty hospitals, or homes, I know to a certainty that there has not been a vacancy for two months, and there is little prospect that there will be one in the next two or three months to come. Not above four of the twenty-eight hospitals in the Association are fairly provided for by endowment or otherwise; the remaining twenty-four are more or less dependent on the gifts of the public from year to year, and at least half a dozen of this number have really no permanent income from any source whatever."

Reports of the various charity hospitals of Great Britain as given in the *British Medical Journal* show that their financial condition is even worse than those of our own country.

The editor of the *A. M. A. Journal* says that "for the large cities of Breat Britain and the United States, there is on an average about one hospital bed for every five hundred of the population, and free dispensaries furnishing medicines and medical advice, not only to all the really out-door poor but also to a very important percentage of those who are perfectly able to pay reasonable fees for such medical services as they need."

Unfortunately, voluntary contributions are more readily obtained when the number treated is large, and this furnishes an inducement to admit patients who are able to pay. Charity institutions should be sufficiently endowed to make them independent of voluntary contributions.

## Shock in Surgery.

In the text books upon the subject there is much confusion and uncertainty embraced in the various rules laid down for the purpose of guiding us in the treatment of the first stages of shock. This confusion is only worse confounded in consequence of the exciting scenes and circumstances which usually surround casualities resulting in the severer forms of shock.

An effort has been put forth in behalf of the Review to develop and print in its columns for the benefit of its patrons,the views of gentlemen eminently fitted to express and formulate better rules ofconduct than have appeared heretofore relating to this subject. So far as these investigations have been carried in developing opinions covering the surgery of shock, the results clearly show that the intelligent tendency of the times contemplates the prompt and complete application of antisepsis, thereby preventing microbic infiltration of wounded tissues, thus averting its decomposition and instead of active operative interference, delay is made an element in the rational surgery of this class of cases.

We append a letter from Dr. Gerster, of New York, and one from Dr. McCann, of Pittsburg.

56 E. 25th St., New York.

Dear Doctor.—Shock following extensive scalds and burns is to be managed by stimulation varied according to circumstances. In some cases alcoholic enemata of hot water, in others hypodermic stimulation; and in cases where more than one-third of the integument is involved a permanent warm bath, that is,immersion in 6 per mille salt water was successfully used by Hebra, of Vienna, the heat of the bath being raised to 108°–110° F. until reaction sets in. As to the treatment of burns, only so much need be said that be they limited or extensive, the leading idea must always be to keep the burn aseptic, either by aseptic dressing, or by continuous immersion.

I do not consider it good surgery to ampu-

tate during a state of shock, unless hemorrhage or some other vital indication be present.

It would be proper to envelop and dress the shattered limb in an aseptic dressing to prevent its decomposition, then set about to counteract shock by proper measures, as hot bottles, hot drinks, hot enemata, amyl nitrate, etc., and as soon as the heart's action improves, go about your amputation. A. P. GERSTER.

928 PENN AV. PITTSBURG, PA.

DEAR DOCTOR.—In reply to yours of recent date, I have to say that I do not advocate amputation in any case during the existence of shock. What I do most earnestly urge is that surgeons should not wait for complete reaction—a condition which does not and cannot occur after many forms of railway injuries, so long as the mangled parts retain attachments to the body. After certain injuries death is the almost certain result whether amputation is performed or not, and it has always seemed wisest, to me at least, to remove the crushed parts and convert the frightfully lacerated wound into a clean incised wound by a carefully and rapidly performed amputation, and thus let the sufferer have the little chance for life that is left to him. But I would not attempt to do this if I found him in a condition of extreme collapse, with sub-normal temperature, thready, flagging or imperceptible pulse and with the evidence of approaching dissolution.

First place him in as comfortable a position as possible, control bleeding (not by the tourniquet however), apply antiseptic dressing to the limb, surround the body with dry heat and carefully administer stimulants. If he cannot swallow give him hypodermics of whiskey, sulphuric ether or diluted ammonia and morphia in moderate doses. This treatment is sufficient usually to secure a moderate degree of reaction, if reaction can occur, and the amputation should not be delayed beyond this period with the expectation of securing complete reaction. I have seen a man live for nearly four days after a crush of both legs until the limbs became "dead and rotten", the surgeon in the mean time waiting patiently for more favorable reaction, which never came. JAMES MCCANN.

In addition to what is said in the two preceding letters relating to stimulation in shock we wish to suggest a more potent and reliable method in the form of an injection containing one ounce of brandy and three ounces of warm water administered per rectum and repeated at varying intervals, during the existing shock and if repeated immediately upon reaction, and preliminary to the surgica operation, which is to follow, will act as a reserve power to be utilized later, and has the advantage over the administration of a stimulant by the mouth, in that it cannot embarrass the breathing. G. W. B.

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## OPERATION FOR ESTABLISHING LUMEN OF INTESTINE.

A correspondent of the *Denver Med. Times* writes as follows:

"Through the great kindness of Dr. Robert Abbe, of St. Luke's hospital, I am able to send you, in advance of its publication elsewhere, an account of a most interesting case, illustrating an entirely new departure in the surgery of the intestine.

A man. æt. 60, had symptoms of intestinal obstruction for a year and a half. For many weeks the obstruction had been complete, as shown by entire absence of stools. He was apathetic, fainted frequently, had anorexia, foul breath and an enormously distended belly. The apathy deepened into stupor and he was admitted to the hospital practically moribund. Dr. Abbe made a median laparotomy, and found the cecum and ascending colon to have a diameter of ten inches, entirely filling the right half of the abdomen. He stitched the colon to the abdominal wound and then opened it, evacuating at least 25 pounds of feces. The patient revived immediately and in a few hours could take food.

Three weeks later, Nov. 14, 1888, wishing to restore movements per anum and having found by injections that the obstruction was at the hepatic flexure of the colon, Dr. Abbe made a lateral section in the right hypochon-

drium and found a small, but complete, and probably malignant, stricture. Now came the interesting part of the operation. He button-holed the colon on each side of the stricture and fastened the two openings together by means of the decalcified bone plates recently devised by Senn, of Milwaukee. These plates were oval disks about an inch and three-quarters long and one and a quarter wide. Each has a perforation in the centre, and four threads are attached to the inner edge at equi-distant points. One of these plates was slipped through each hole in the intestine and made to lie flat against its lining membrane by means of the threads which were brought through the intestinal wall. Then each thread was tied to the corresponding one of the other plate, thus bringing the two openings opposite each other and firmly pressing their edges together. In a few hours plastic lymph glues the peritoneal surfaces together, the inside of thegut is shut off from the peritoneal cavity,and communication is established between its two parts through the perforated plates. These plates being decalcified will eventually be dissolved, but not until firm union has been obtained.

In this case the result is simply perfect. Daily evacuations per anum has been restored, the patient is up and about and has gained so much in flesh and strength as to be better than he has been for many years before."

This case as far as we have any knowledge of is the first that has been reported where the surgeon has carried out the plan of Senn of establishing intestinal anastomosis by lateral approximation with perforated decalcified bone plates. (See Senn's paper on Intest. Surgery Trans. Inter. Med. Cong. Wash. D.C., 1887, and also *Annals of Surgery*, 1888).

We are glad to note the fact that Senn's admirable work is appreciated and that the fruits thereof are becoming apparent inas much as other surgeons are verifying his experimental work, by actual results, on the human living subject.

Although the methods of Senn aim to simplyfy and shorten the time of intestinal operations it is not to be supposed that there will be no failures in this direction.

Although Senn has done an invaluable work toward perfecting and suggesting the technique of intestinal surgery yet there is in this direction an immense field for further study and experimental investigation. We are as yet upon the threshhold of intestinal surgery, and every case reported successful or unsuccessful will add to our store of knowledge in this department of surgery.

The case of Dr. Abbe's is certainly unique inasmuch as he first gave nature a chance to recuperate herself by the secondary establishment of an artificial anus, and then afterward attempted to restore the bia naturalis by the secondary operation according to Senn's method by lateral approximation with decalcified bone plates. The condition of the patient is the best proof of the success of the operation, and Dr. Abbe is certainly to be congratulated that he demonstrated practically on the human subject what hitherto had been done only on the lower animals experimentally. A. H. M.

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## Sudden Heart Failure in Diphtheria.

Sudden heart failure in diphtheria is the subject of an interesting paper by Dr. J. Lewis Smith before the N. Y. Academy of Medicine in November. He objected to the theory that diphtheritic paralysis always results from organic change in the nervous system. He stated that careful microscopic examination of the nerves of the paralyzed part would often show these nerves to be normal throughout the whole extent, and further that in diphtheria there was in some cases sudden shifting or mutability of the paralysis. In accord with this line of thought Dr. Beverly Robinson said he had made a large number of autopsies in cases of sudden death from heart failure in diphtheria and had never found any lesion of the peripheric nerves. He was of the opinion that the cause of death was not as a rule due to paralysis but to the formation

of ante-mortem clots especially in the right heart.

While there is doubt as to the cause of heart failure in diphtheria it seems to be a fact that it has been less frequent since the general introduction of the free use of alteratives, of iron and of stimulants. The probability is that by such treatment the number of cases of heart clot is lessened, and that these were formerly classed as cases of paralysis. W. P.

### Maggots in the Eye.

Dr. H. F. Steves, of Birmingham, Ala., writes of a case which recently came under his observation, that is of interest to the profession chiefly because of its unique character. The mother of a child about two weeks of age, found a larva of a blow-fly on her dress, and on the following day as the child's left eye was closed, red, and swollen, a physician was called. On exposing the eye to the light a "stream of blood" escaped between the lids followed by the escape of a maggot. The following day the eye was well. The amount of blood was probably not more than a few drops. Two days previous to the disdiscovery of the larva the child had been given its first outing on a strset car and it was observed that blow-flies were very numerous.

It is not uncommon for these flies to deposit their eggs in the external auditory canal or even in the nasal cavity, but it is highly probable that this never occurs except when there is a fetid discharge from these cavities. In the washing of new-born infants, great care should be taken to cleanse thoroughly the eyes.

### The Microbe of Diphtheria.

Dr. Roux and Dr. Yersin of the Pasteur Institution believe they have identified the microbe of diphtheria. We learn through the *Brit. Med. Jour.*, that among the most interesting of their conclusions is that the microbe acts by secreting a soluble poison. They have been conducting experiments to determine whether this poison is an alkaloid or a ferment· A high degree of heat destroys its toxic properties, as does also exposure to the air, but when sheltered in a closed vessel from air and light it retains its poisonous properties for a long time. The investigators believe they will be able to produce immunity in animals. At present the most important prophylactic measure is careful treatment of the sore throat of scarlet fever and measles. The mouth and pharynx should be carefully cleansed with carbolic acid, which is the most efficacious agent against diphtheria.

### Epileptoid Convulsions in Malarial Fever.

Dr. Richardson reports, in the *Memphis Med. Monthly*, a case of malarial fever in which the paroxysms recurred daily, consisting of a cold stage, a hot stage, and a sweating stage. The peculiarity of the case was that at the beginning of the cold stage the patient complained of feeling cool, her face became pallid, she sat up in bed, complained of a peculiar odor and fell back unconscious and rigid, with frothy saliva oozing between her set teeth. She would remain in this condition for a few minutes and then slowly regain consciousness. A sense of numbness in her hands and feet, and a stiffness of the muscles of the back and neck remained till the pyretic stage came on. Under the usual treatment for intermittent fever with bromides during the intermission the patient recovered.

### Diagnosis of Abdominal Tumors.

As illustrative of the difficulties attending the diagnosis of abdominal tumors a case is reported in the *Kansas City Med. Rec.*, by Dr. Case, in which the patient consulted ten physicians and surgeons, five of whom gave no diagnosis; three pronounced the disease to be aneurism of the left internal iliac artery, Dr. Dawson, of Cincinnati, one of the three; Dr. Agnew, of Philadelphia, said it was

aneurism of the abdominal aorta; the late Dr. H. B. Sands, of New York, pronounced the disease to be malignant sarcoma, and the autopsy proved the correctness of his diagnosis.

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SURGICAL INTERFERENCE IN PERITONITIS.

Mr. A. W. Thornburn Steer reports a case in the *Brit. Med. Jour.*, in which a man, æt. 32, was caught under a mass of falling material while working in a pit. He was rescued and carried to a village a mile or two away. He complained of great pain in his back, had involuntary evacuation of feces, and passed urine, which contained a large amount of blood and was very painful. On placing the hands on the anterior superior spinous process of the ileum crepitus could be distinctly felt.

The patient continued to get worse till the third day when his temperature was 104°. Mr. Steer opened the abdominal cavity and found the bladder, small intestines and colon bound together by inflammatory adhesions which he carefully separated, and after thoroughly washing out the peritoneal cavity, closed the wound. The fracture traversed the whole length of the false pelvis. The patient made a good recovery.

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THE secret of success in the treatment of purulent endometritis, according to Dr. Alexander Duke (*Brit. Med. Jour.*,) is in keeping the opening into the uterine cavity thoroughly patulous that the discharge may have free exit. After using rapid dilatation he cleanses the cavity with a curette and immediately after introduces a spiral wire stem which can be worn without inconvenience.

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ON ANOTHER page will be found an instructive article on cocaine poisoning. Now that this drug is being go generally used for minor and even major surgical operations; a close study of its toxic effects is very necessary.

## SELECTIONS.

### NERVE GRAFTING.

At a meeting of the Clinical Society of London, Mr. Mayo Robson (Leeds) showed a girl, aged 14, on whom he had successfully grafted two inches and a half of the posterior tibial nerve into a corresponding gap in the median nerve in the forearm. He also showed the tumor which had involved the median nerve, and had necessitated its removal. The history of the case, briefly, was that the patient had noticed the tumor growing for six years, but that it had grown more rapidly during the past twelve months, during which time it had caused considerable inconvenience, as well as deformity. The tumor, about the size of a hen's egg, extended from the annular ligament, in front of the right wrist, up the forearm for about three inches, reaching laterally from side to side, the skin being firmly stretched over, but not adherent to, the tumor, which appeared to be solid or semi-solid. On making an incision over the swelling the tumor bulged through the wound, and was easily separated from its cellular bed, leaving the mass attached above and below to a cord, which appeared to be inseparably blended with it. The attachments had, therefore, to be cut through. A microscopic examination showed that the cord was composed of nerve-tissue, and on the patient coming round from the anesthetic, the parts in the hand supplied by the median were found to be devoid of sensation. Arrangements were made by Mr. Robson to graft the sciatic nerve of a rabbit into the gap of the median nerve, but fortunately his colleague, Mr. Ward, kindly allowed him to arrange his operation at the same time he was amputating a thigh, and to utilize the posterior tibial nerve, which was taken straight from the amputated leg into the prepared forearm, the transfer from one theater to the other being made in a warm carbolic solution. Two inches and a half of nerve were utilized, the ends being attached to the proximal and distal portions of the median with a

fine catgut suture, without the slightest tension, either on the stitches or on the nerve; the wound was well washed out with perchloride of mercury lotion, and carefull sutured. Healing occurred by first intention. The grafting was performed forty-eight hours after the tumor had been removed; thirty-six hours after the nerve had been grafted sensation had so far returned in the parts supplied by the median that the touch of a pencil could be localized. Day by day sensation became more and more distinct, until when shown to the members of the Leeds and West Riding Medico Chirurgical Society, five weeks after the operation, it was so perfect that the slightest touch could be localized,and although there was manifest diminution in volume of the abductor and flexor brevis pollicis, they were not completely paralyzed. Mr. Mayo Robson, after relating experiments on animals, which went to prove that reunion and even regeneration of nerves might occur, remarked that, in such cases, when there had been absolute loss of nerve, return of function did not occur. He thought that the case he had related presented very important physiological and clinical features; physiological, in that the living nerve must have immediately united and taken on function, so that thirty-six hours afterwards the distal portions of the median were functionally active; clinical, in that, if nerve-grafting to such an extent could be certainly relied on, many hitherto hopeless cases might be cured; for instance, in injury of an extremity with destruction of one or more chief nerve trunks, in the case of a tumor involving nerves, in paralysis due to cicatricial destruction of nerve, and in many other cases. He ventured to hope that if, as in this case, 2½ inches of nerve would live, further experiments might show that greater lengths might survive; or, if this were found to be impossible, that the grafting might be done piece by piece as in the case of bone-grafting. The conditions which he advised to be observed in such operations were, first, entire absence of tension in the grafted nerve—for example, 2½ inches being employed to fill an interval of 2¼ inches; secondly, great care in dissecting out and in handling the nerve; thirdly, immediate transference of the living tissue into its new bed; fourthly, the employment of only a single suture to fix the ends of the nerves; and fifthly, strict asepsis. He thought that this case, if he had correctly interpretted it, went to disprove the theory that a primary union of the divided ends of a nerve was only an appearance of union, and not a physiological one, and that the distal ends must pass through a process of degeneration before regeneration. He remembered that the return of function in the motor portion of the nerve was more gradual than in the sensory, and made suggestions which he thought might explain the difference.—Mr. Bryant asked whether the suture had included the whole thickness of the nerve.—Mr. Bowlby observed that the case seemed likely to prove a successful one, but at present it was not entirely so. It was the first recorded case of nerve-grafting in this country, although a number of experiments and operations had been published on the Continent. This was the first case of primary grafting of a nerve; that is, within forty-eight hours of injury. He pointed out that in a certain number of instances there had been restoration of function without restoration of continuity of the nerve. He had quoted several instances of the kind in his lecture at the College of Surgeons. Still, on examining that particular patient, he found more sensation than he had ever seen before under similar circumstances. The condition of the muscles was not altogether healthy, but still satisfactory. He asked that, before the case was recorded in the *Transactions*, Mr. Robson should ascertain what was the reaction of the muscles to electricity. He mentioned as a curious fact that the power of voluntary motion often returned a long time before there was any reaction to electricity. He had remarked a bulla on the tip of the patient's index finger which seemed to point to a trophic lesion. He questioned the accuracy of the view generally held that, after primary suture of the two ends of a divided nerve, the lower end

necessarily underwent degeneration. It was not always so, at any rate. He mentioned a case in which he had brought the ends together, although fully an inch had been cut out, with complete restoration of function in a few days. In another case in which union by primary intention took place, and although there was no paralysis, yet for a long time there was no reaction to electricity. He also pointed out that sensation was a very vague term aad might exist in very varying degrees. Mr. Robson's patient still experienced numbness and tingling in the fingers, showing that sensation, if good, was not perfect.—Mr. Bland Sutton urged that it did not follow that, because restoration of function had taken place after joining the cut ends of the posterior tibial nerve, the latter had become incorporated with the median nerve. In experiments that had been carried out on animals it seemed that anything which acted as a conductor, so to speak, along with the reparative material passed—bits of chicken-bone, cat-gut, etc.—had been found to answer the purpose. The bulla which had been noticed generally took some time to form, and he suggested that the patient was now getting the spmptoms which would have followed had the grafting not been effected. He hoped that the future progress of the case would be carefully watched, and the additional information added to the report when published in the *Transactions*.—The President mentioned the case of a man from whom, in the course of an operation for the removal of a tumor, he had accidently removed a large piece of the external politeal nerve—too much, in fact, to admit of the ends being brought together. Loss of sensation and muscular degeneration followed in the parts supplied by the nerve, and the patient left the hospital in a rather unsatisfactory condition as regarded the leg. Some months later he looked the patient up, and found, to his surprise, that function had been restored, and the patient said he was as strong in the leg as ever he had been.—Mr. Mayo Robson, in reply, admitted that the case was not yet an unqualified success; but the progress of the case had been so uninterruptedly satisfactory that he quite anticipated it would ultimately become so. He had passed a very fine catgut suture through the whole thickness of the nerve. He observed that even if the piece of the transplanted nerve had not become incorporated with the median nerve, yet, in view of the successful issue of the case, most persons would be inclined to commend the course that had been adopted.—*Brit. Med. Journal.*

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## SYPHILITIC PHTHISIS.

BY THOMAS J. MAYS, M. D.,

Professor of Diseases of the Chest in the Philadelphia Polyclinic.

Read before the Philadelphia Polyclinic Medical Society, Jan. 28th, 1889.

Syphilitic phthisis, to which I shall confine my remarks this evening, has been recognized by most writers on pulmonary diseases. Indeed, it is a question with some whether or not all that which goes under the name of pulmonary consumption and scrofula is really and originally due to syphilis. That this assumption is by far too sweeping to be true is shown by the fact that phthisis pulmonalis exists with much greater fatality and frequency among monkeys than it does in the human race, yet so far as I know syphilis has never been discovered among that species of animals. There can be no question, however, that in the great majority of instances in which phthisis has been produced through acquired syphilis—and syphilitic phthisis is more prevalent than is generally believed—the symptoms, physical signs and course of the disease are peculiar and characteristic, and distinguish it somewhat from other forms of phthisis. I have no doubt, too, that many cases which are regarded as examples of ordinary phthisis posses a congenital element of syphilis, and that this disturbs the normal course of the disease. Just to what extent this factor is operative I am not prepared to say, but it is very certain that some cases of

ordinary phthisis are more readily influenced by mercury than others.

Although syphilitic phthisis is a well recognized disease, so far as its pathology goes, I am convinced that clinically it is not understood as well as it should be; and in order to aid you as much as I possibly can in determining it from other diseases, I shall endeavor to lay before you the salient points of the disease as they occur in its clinical course.

The characteristic signs and symptoms which distinguish the syphilitic from the non-syphilitic form of the disease are chiefly an absence of well-defined physical features in its earlier stages, frequently the only evidence of the presence of the disease being a wavy respiration, or an impaired respiratory sound. However, when crepitation appears it commences suddenly, and is usually of a loud, moist character, and may diffuse itself very rapidly over the whole side of the chest. Hemoptysis is generally a prominent factor; there are no persistent, well-defined fever and night-sweats; the expectoration is frequently cough, white, string, and abundant. the patient, as a rule, is anemic, subject to diarrhea and vomiting; the marked anorexia and wasting do not appear early, and any change which occurs in the course of the disease, either toward recovery or death, is generally more marked and sudden than in the ordinary form.

The absence of fever, or the tendency of the fever to assume an irregular or abnormal course, I regard as one of those most valuable symptoms in differentiating this form of phthisis. Whenever I meet with a constant low temperature in such cases, my suspicion of infection is always aroused, in spite of the absence of other satisfactory evidence. The presence of fever is determined, I think, in a great degree by the rapidity of the destructive process. If this assumes a gangrenous form, as it does occasionally, the fever, as a rule, runs high. In addition, there may be aching pains in the sternal region, over the crest of the tibia, as well as in some of the articulations.

Dr. A. Sokolowsky (Ueber die Luetische Phthisie, *Cent. f. die Med. Wissenschaften*, 1884, p. 122) says that clinically there are two distinct forms of syphilitic phthisis: (1) There appears, without any apparent signs of syphilis in other organs, well defined syphilitic hyperplasia in the lungs, with the signs of consolidation, etc., but with complete absence of the ordinary symptoms of phthisis, such as fever, sweats, diarrhea, etc. (2) Materially more frequent is that form which manifests itself as syphilitic pneumonia, and in connection with syphilitic affections in other organs. In this form are present many of the characteristic signs of ordinary phthisis, such as wasting, cough, diarrhea, albuminuria, etc ,but fever and sweats are likewise absent. Dyspnea is frequently a prominent symptom, which may become asthmatic in character. At the autopsy he found in one case hard, cicatricial swellings, together with cavities in both apices; while in two other cases there was present, besides cavities in the upper lobes, a well marked hyperplasia of connective tissue in other parts of the lungs. Dr. A. Hiller (Ueber Lungensyphilis und syphilitiscne Phthisie, *Charite Annalen*, ix, 1884, s. 184) tabulates the post-mortem results of fifty-eight cases of pulmonary syphilis. The typical changes which were found to be most abundant were interstitial connective tissue proliferation, peribronchial fibrous induration, diffuse thickening of the lobular parenchyma, syphilitic gummata, and nodular induration or broncho-pneumonia.

From these data it may be observed that syphilitic phthisis does not differ materially in its anatomical aspects from the non-specific, or ordinary variety. On this point Walshe ("Diseases of the Lungs." 4th ed., p. 512,) also says "There seems to be nothing distinctive in the anatomical character of the syphilitic variety of the product, and the connection between the low, quasi-inflammatory process producing it, and syphilis is only to be established by the antecedents of the individual and the coexistence of various positive results of tertiary syphilis." Why the disease gives rise to many of its specific symp-

toms may possibly be due to the peculiarity and rapidity with which the disease evolves, for it is doubtless true that the average duration of syphilitic phthisis is much less than that of the ordinary form. So far as the bacillus tuberculosis is concerned, my researches show that it is not present in syphilitic phthisis, but that the syphilis or smegma bacillus of Lustgarten, an organism which is analogous in form and in vital reaction to the tubercle bacillus, is said to be found in this disease occasionally.

Now, the point which interests me more than any other in this important subject is the modue operandi of the syphilitic poison in producing phthisis. Through what channel does it bring about pulmonary disease? Does it produce inflammation, gumma and hyperplasia directly or indirectly? Does it act as a local irritant to the pulmonary tissues through the blood, or does it accomplish the same end by destroying the integrity of the nerves which supply the lungs? From an a priori standpoint, the latter is certainly the most reasonable view of the two, for it must be evident to any one who has given the sub ject intelligent thought that, like alcohol, syphilis has a specific affinity for the nervous system, at least in its tertiary stage, and is pre-eminently a nerve poison; and that it is capable of producing disease in other parts of the body by interfering with innervation. And if this is true, so far as the body in general is concerned, why should it not also be true of the lungs; especially since it is abundantly proven that disintegration of the pneumogastric nerves, brought about either in a natural or in an experimental manner, leads to inflammatory disintegration of the pulmonary textures?

That abundant clinical evidence can be obtained to prove this proposition I have not the least doubt, but the extremely short time which I had given to me to prepare this paper was altogether inadequate to do justice to the subject. I believe, however, that if the few illustrative cases which I have succeeded in collecting, and which will presently follow, are reae in the light of each other, and taken in connection with what is stated in the body of this paper, they will showthat the syphilitic poison produces its lesions in the lungs through the nervous system, and presumably by destroying the integrity of the vagi.

Case I.—(Walshe: "Diseases of the Lungs," 4th edition, p. 513.) "A gentleman, aged about 27, had chancre and suppurating bubo. Some months later a troublesome cough brought him under my notice; he had had no hemoptysis; the expectoration, muco-purulent, was destitute of special character; there was no pyrexia; little if any positive wasting; the aspect generally was not suggestive of tuberculosis or other disintegrating lung disease.

"The left side of the chest had all the physical attitudes of health. On the right side high pitched, toneless dulness, not the least wooden in quality, suggestive of soft consolidation, reached from a shade below the clavicle to about the fourth rib, almost joining on with the liver dulness; it was not perceptible above the clavicle, nor in the axilla, and was much less marked behind than in front. The respiration, high-pitched but weak, reached the ear unattended with dry or moist rhonchus.

"The patient went South, improved in general health; shortly after had epileptiform seizures; came home with palpable extra-cranial and inferrible intra-cranial, nodes, and his lung unchanged. He was put on a course of bichloride of mercury, under which, among other changes, the lung so completely recovered, that after awhile not a particle of difference could be detected in the percussion note on the two sides. Years afterward I saw this patient in perfect health."

Case II.—("Primare Seitenstrangsklerose nach Lues," Dr. Minkowski, *Archiv. f. Klin. Med.*, Vol. 34, p. 433. From the clinic of Prof. Naunyn.) Abstract: Female, 19 years old; was received in the Konigsberg Hospital, Jan. 15, 1882, on account of syphilitic infection, and stated that she had always been well until the previous May. Some time after admission she became subject to violent cough, dyspnea, debility, night sweats,

weakness in the lower extremities and marked shakiness while walking. Temperature, 38 8°; no edema; sensorium and sensation unimpaired. At this time a physical examination revealed the presence of phthisical changes in her lungs. Death, July 18, 1882. Section: Extensive tuberculous changes in both lungs; a cavity in right apex, and a number of small ones in upper lobe of left lung; tubercles in intestinal canal. There was degeneration in the medulla, and in the cervical and dorsal portions of the spinal cord.

Case III.—(Prof. O. Kahler, *Prager Zeitschrift f. Heilkunde*, Band viii, 1887. p. 1.) Abstract: Male, 29 years old; came under observation May 26, 1885. Two days previously became suddenly attacked, while sleeping, with a peculiar sensation in right side of his body, disturbance of speech, and complete paralysis of left arm. On inquiry it was found that three months before he had acquired a syphilitic sore. Examination showed that at this time the thoracic organs were in a normal condition. Motility is impaired in the whole half of the body, although sensibility is intact everywhere. He was placed under energetic antisyphilitic treatment.

During the following July the patient's condition became perceptibly worse in every respect. During the last of August he began to complain of pain in the neck, spine and thorax. Diarrhea and anorexia also set in, and the patient died on the following 10th of November.

Autopsy: Diffuse colloid degeneration of thymus gland; mucous membrane of trachea, larynx and pharynx pale; right lung partly adherent; cheesy nodules and small cavities in both apices; in lower lobe of right lung foci of pneumonic infiltration.

The cerebrum and the cerebellum were hyperemic, and the ventricles were dilated. There was sclerosis of the motor oculi and facial nerves, and the pons, the medulla oblongata and the cranial nerves were in a state of degeneration.

Case IV.—("Progressive Paralysis of Cranial Nerves due to Syphilis." By Dr. John Lewtas, M. D., *Med. Times and Gaz.*, 1875, Vol. II, p. 17.) Abstract: A young man, aged 22, complained of intense pain in right side of head and in right cheek, and an inability to walk steadily. The right cheek was swollen, the corresponding angle of the lips lower, and the saliva dripped from the mouth. He had been using remedies for toothache although his teeth were sound. He spoke thickly and indistinctly, as though his tongue were too large for his mouth. There was such a degree of paralysis of right facial nerve that a 20 cell Smee battery produced but very slight contraction on that side of the face. He remained in this condition for twelve days after I first saw him. At the end of this time obstinate and incessant vomiting set in. He would retch violently for ten or fifteen minutes at a time, then fall back exhausted, only to begin again after a short interval. In five days this vomiting had ceased, and although no history of syphilis was obtained, it was decided to give him potassium iodide.

One week later no improvement had occurred, but he was rather worse. Vomiting had returned. He now began to complain of deafness on right side and of pain at the epigastrium. On the twenty-third day he was writhing and groaning with pain in the left side of neck, shoulder and chest. Left arm and leg were in a rigid, semi-convulsed state. He breathed superficially and quickly, emitting a sort of grunt with each expiration. Gave him one-third grain of morphine subcutaneously, which brought considerable relief. Respiration 32, pulse, 92. Little or no air is heard to enter left lung. Crepitation and impaired percussion resonance all over right apex, also abundant muco-purulent sputum. He now received 1-16 grain of bichloride of mercury with each dose of potassium iodide, and in a few days there followed marked improvement. He became almost free from pain in the head, neck and shoulders. Crepitant rales no longer heard over right apex, but the respiratory sounds there are harsh and bronchial. Curiously enough, subcrepitant rales are audible now over the

left apex, whereas a few days ago no moist sounds were detectable in that situation. One week later the report was: Steady improvement in nerve symptoms; pain in head quite gone; crepitation over the greater part of posterior surface of left lung, also in front, but less distinctly; no morbid phenomena in right lung. One week after this date he felt sufficiently well to resume his duties, nothing remaining but slight deformity of the mouth and a muco-purulent expectoration.

Dr. Lewtas states that in his belief there was in this case successive implication of the facial, auditory, pneumogastric and hypoglossal nerves in consequence of syphilitic infection, and that the disappearance of one and all of the signs and symptoms under a single plan of treatment tends to show that they all had a common origin in the nervous system. Now there can be no question that in at least three of the related cases the nervous lesions preceded those of the lungs, and that so far as I am able to judge from the post mortem facts of two of the cases, and from the clinical course of the last one, that the former sustained a causal relation to the latter. We may, therefore, look upon syphilis as a virus which is capable of calling forth through the nervous system—and in all probability through impairment of the pneumogastric nerves—a process in the pulmonary organs which, to say the least, bears a very striking analogy to that of the ordinary form of phthisis. This is a factor of the most vital importance, inasmuch as it has a very intimate relation to the etiology of general phthisis. For if syphilis has the power of producing phthisis in this way, to what extent will its inherited influence prevail in bringing about the same or modified results in future generations, and how far may alcoholism, plumbism, and a host of other causes which have the power of deteriorating the nervous system, be instrumental in bringing about a similar condition of things in the same way? These are pertinent questions which demand recognition and an intelligent solution, before we are justified in ascribing the existence of phthisis to one universal cause.

Now a few words in regard to treatment. It is almost superfluous for me to say anything about the importance of recognizing the true nature of the disease as early as possible, for a phthisis of this kind that is amenable to treatment to-day may go beyond the bounds of cure to-morrow. I have frequently witnessed most decided effects from a decided and persistent course of antisyphilitic treatment. A wavering and a hesitating policy is not the one to pursue in such cases. Action must be bold, aggressive and determined. If there is any doubt, let the patient have the benefit of the uncertainty and place his system under the influences of mercury, even to the extent of slight mercurialization. This is best accomplished with the mercury iodide, combined with small doses of opium, or by inunctions and inhalations of mercury alone. The potassium iodide may also be administered with advantage, especially after the mercury treatment.—*Polyclinic.*

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## COCAINE-POISONING.

Since the introduction of cocaine into the practice of medicine, so many cases of poisoning have occurred that it is important to analyse these for future guidance. It is the fate of nearly every useful but powerful drug, before its complete action is recognized, to be either too extensively or too recklessly employed. Perhaps this has been the case with cocaine, because it is commonly used for its local anesthetic effect—to alleviate local burning, tenderness, or pain—and for its anesthetic effect prior to the extraction of teeth or other minor operations. Although these local uses are the chief ones for which cocaine is employed, yet it is important to bear in mind that it is a very powerful poison. When simply pointed on to the parts, serious results do not often ensue, except when applied to the pharynx or larynx in the form of spray. A tendency to syncope and complete unconsciousness may follow its use in this way. When injected under the gums for the extraction of teeth, or under the skin for the removal of a tumor or the opening of an ab-

scess, great care is necessary in graduating the dosage, a fact by no means generally recognized. And this fact becomes all the more important when it is remembered that there is very great iodosyncracy in the action of cocaine. A number of trials were made with cocaine by Decker, with the view of lessening the pain caused by hypodermic injections of calomel; and he found that a dose of 0.05 gramme (three quarters of a grain) ought never to be exceeded in a hypodermic injection, and that usually half that amount, three-eighths of a grain, was safer to administer. This does not mean that a dose larger than three quarters of a grain cannot be administered with impunity; but it is impossible to predict that a larger dose will not cause serious symptoms of poisoning.

Besides its action as a local anesthetic, cocaine is a stimulant to the central nervous system first, and finally a paralyser. It increases the respirations, and causes death either by respiratory paralysis, or more commonly, according to Mosso, by a tetanus of the respiratory muscles. Cocaine, moreover, paralyses the vagus, causing extreme rapidity of the heart's beats; it raises the arterial blood-pressure, and increases the intestinal movements. It diminishes also the secretion of sweat and of saliva, and causes a considerable rise of body temperature. According to Mosso, cocaine is one of the most energetic substances known in causing an increase of the temperature.

In many of its actions, therefore, cocaine resembles atropine; in dilating the pupil, in stimulating the central nervous system, and finally paralyzing it; in paralyzing the vagus, in diminishing the secretions, and in increasing the intestinal movements. It differs from atropine in producing a contraction of the peripheral blood-vessels, while the primary contraction caused by atropine rapidly passes into dilatation. From this epitome of the physiological action of the alkaloid, the symptoms of poisoning in man are readily understood.

The question whether in a given case a drug will produce symptoms of poisoning or not depends chiefly on the dose given, but also on the mode of administration, and on the rapidity of elimination. Cocaine given hypodermically is rapidly absorbed; it is also, in the healthy individual, rapidly eliminated by the kidneys. If, however, there is extensive disease of these organs, elimination will be prevented to a greater or less extent, and the symptoms of poisoning will be more serious. In a recent case, in which twenty-two grains were accidentally administered by the mouth, the patient, a man, died almost immediately. At the post-mortem examination it was found that one kidney was tuberculous and the other was not functional owing to advanced atrophy, a condition of organs which would certainly prevent the rapid elimination of the alkaloid.

The slow elimination in other persons may explain some of the cases in which cocaine has caused poisoning. Mowat relates the case of a man, aged 29, in whom one drop and a half of a 10 per cent. solution was injected at the sides of a rodent ulcer of the eyelid, previous to operation. The dose was only about one seventh of a grain, but as the wound was being sewn up the patient became pale, and gasped for breath, while his legs were stiff and cold. The pupils were half dilated, and reacted to light; the pulse was weak and very frequent. The knee reflex was exaggerated, and clonic spasms of short duration supervened. When these had ceased the patient appeared drunk, and, on recovery, was giddy for some time. It is unusual to observe such serious symptoms of poisoning from so small a dose. The great vascularity of the eyelid may have aided the rapid absorption of the poison. Poisoning, however, by larger doses is by no means uncommon. A dentist, for example, injected into the gums of a girl, aged 19, one grain and a third (0.1125 gramme) of cocaine in two portions. Anesthesia was complete in a few minutes, and the tooth was extracted with ease. After washing out the mouth once or twice the patient became very pale, and fell into convulsions. Nitrate of amyl and cold affusions were tried, but had no effect in restoring the

patient. She became unconscious, and groaned, while the clonic spasms in the muscles of the body and extremities lasted for five hours. The pupils were dilated and did not react to light. At first the pulse at the wrist could not be counted, but afterwards it was 176 in the minute. The temperature was raised, being 32.2 C. (100.8 F.,) and the respirations were 44. The unconsciousness lasted two hours after the spasms had ceased. The patient recovered consciousness in seven hours, but was then unable to use the extremities. There was well-marked photophobia, diminished sensation in the hands, anesthesia of the mucous membranes of the nose and loss of smell and taste. The pulse was now 132, and the respirations 28 in the minute. Gradual recovery took place, but there was pain in the region of the heart for six days. During the first twenty-four hours after the cocaine had been given there was diminution of the amount of urine; there was also sleeplessness for thirty hours, and complete loss of appetite for four days. The patient was treated with large doses of opium, but no appreciable effect was observed.

In another case, where one grain and a quarter was injected for an acute attack of sciatica, there was soon great uneasiness and excitement, with a lively but constantly changing expression of countenance. There were choreic gesticulations with the hands; the pupils were irregular, the pulse very frequent and the breathing rapid. Opium given in small doses was not of much benefit to the patient. Recovery did not ensue till four days after the poisoning, and even then the patient was restless and had a tendency to giddiness.

In a third case, a boy aged 13 years received about one grain and a half at the side of a sebaceous cyst, which was about to be excised; twenty-five minims of a solution of two grains in thirty-five minims of water were actually given. In five minutes the patient became pale and restless, so that the operation was rapidly performed. Dyspnea ensued, and the pulse-rate rose to 120, while the restlessness increased, and the patient wrung his hands. The heart's action was very much disturbed, the pulse becoming so rapid as scarcely to be felt at the wrist; the respirations were frequent and irregular. In three-quarters of an hour there was nausea, with eructations and pain in the epigastrium. Brandy was administered, and the epigastrium rubbed. In four hours the patient was quite well. It was noticed that, at the time of the operation, the anesthesia was not complete.

It is evident from these cases that any dose above one grain, whether injected into the gums or under the skin, may give rise to serious symptoms, happily, however, not fatal. The case of poisoning with one-seventh of a grain mentioned above was undoubtedly due to some idiosyncrasy on the part of the patient; the other cases of poisoning with doses above a grain only tend to confirm Decker's statement that no dose over three-quarters of a grain ought to be administered hypodermically. Indeed, it is not as a rule necessary to use a larger dose than this; if judiciously directed, the injection may be so made that complete anesthesia may be obtained over a large area with even half a grain. The object is to obtain local anesthesia without producing any of the general physiological actions of the alkaloid. In some cases the advent of poisonous symptoms seems unavoidable, and the question arises, what is to be done?

Morphine is to some extent an antagonist to cocaine, as it is to atropine; but no beneficial results appear to follow the administration of opium or morphine in cocaine-poisoning, even in large doses. Nitrate of amyl has been recommended as an antidote; it dilates the peripheral vessels, while cocaine contracts them. In cases of poisoning, however, it does not appear to have been of such use. The chief symptoms in severe cocaine-poisoning are referable to the nervous system; these are unconsciousness and convulsions. The latter, which are clonic in character, are cerebral in origin, since they are not produced in animals if the spinal cord be divided. However death occurs either from respiratory paralysis, or perhaps more frequently from

tetanus of the respiratory muscles. Cocaine, in fact acts upon the central nervous system from above downwards; it first affects the cerebral hemispheres, then the medulla oblongata, and finally the spinal cord. Chloral hydrate antagonizes all the actions of cocaine, except the rise of temperature. Although chloral itself produces a great fall of body temperature, it does not counteract the rise produced by cocaine. In poisoning by this alkaloid, Mosso, as the result of numerous experiments, advises the inhalation of ether or chloroform; in this way death by respiratory tetanus is prevented. When the patient is recovering somewhat, chloral in small doses may be administered. But prevention is better than cure; and there is no doubt that as great care ought to be taken in using cocaine for its local anesthetic effect as in the exhibition of any other powerful drug, and especially is this the case when it is injected hypodermically.—*Ed. Brit. Med. Journal.*

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## EYESIGHT AND THE EDUCATION ACT.

The effect of school life upon the eyes has been investigated pretty thoroughly both in this and other countries; colossal statistics have been collected and many books written. We are induced to return to this somewhat hackneyed subject by having had our attention directed to a long and desultory correspondence that has lately appeared in the *Standard*, which shows that a lamentable amount of ignorance of the most elementary facts in connection with refraction exists even among medical men.

The correspondence referred to was commenced by a letter from Mr. St. Clair Buxton, in which, after calling attention to the prevalence of defects of vision (chiefly hypermetropia) among children, he suggested that as the Government insisted upon every child using its eyes, it was bound in the first instance to see that the eyes were fit to be used.

This letter opened the floodgates for a torrent of nonsense on many parts which had little to do with the matter in hand. The writers deal for the most part with three subjects—the manner in which myopia is produced, the possibility of diminishing it, and the effect of concave glasses. As regards the first subject, a few writers content themselves with pointing out the ill-effects of faulty illumination, defective print, leng hours, etc., conditions of which the ill-effects are perfectly well known to those who have paid any attention to the subject. One gentleman satisfactorily explains the onset of myopia between the ages of 7 and 12, by the fact that babies are made to lie on their backs in the sun, and adds that anyone trying this position will be able to convince himself that "to this cause alone much of the short-sightedness is due."

It is strange that at the present day even medical men should be found who believe in the possibility of diminishing short sight by use of the eyes. One writer demonstrates the danger of a little knowledge, by stating that in Russia, increasing the reading distance has been found to have this effect. It is perfectly true that this method of treatment is one universally recognized, but its object is merely to prevent the increase of existing myopia. It cannot be too forcibly impressed upon the lay mind, especially upon those who are concerned in teaching, that true short-sightedness depends upon an abnormal increase in the antero-posterior diameter of the eye, and that this can no more be diminished than can the length of a limb. A given amount of myopia having been attained, it may, and generally does, increase, but it cannot diminish. Facts which are apparently opposed to this statement depend solely on other conditions (for example, spasm of accommodation) having been mistaken for short sight.

As regards the influence of concave glasses on the progress of myopia there is a tendency to exaggerate in both directions. There is a large class of persons, including nearly all opticians, who forget that the eye is composed of living tissues, supplied with nerves, blood-vessels, and lymphatics, and that it is therefore subject, like other parts of the

body, to various morbid conditions. They look upon it solely as an optical instrument, an organ to see through rather than with, and since science has enabled us to gauge with almost mathematical precision any optical errors which it may possess, they consider that all that is required when any such exist is to correct them by optical appliances. "Spectacles to suit all sights" is the motto of this tribe.

Others go to the opposite extreme and believe that the wearing of glasses "weakens" the sight. This view was formerly widely held by the laity, but has been to a great extent dispelled by the spread of education. Among the ignorant it is easy to see how such an opinion would arise; assistance would not be sought till some defect had been noticed. If this were of a progressive nature, its subsequent progress would readily be attributed to the spectacles. The greater the improvement in vision produced by the spectacles, the more dependent does the wearer become upon them; hence the frequent statement, which is perfectly true, that vision without glasses has become worse since they were used. Moreover, the adaptation of spectacles is often entrusted to ignorant quacks, who gain the confidence of the public by bold advertisements in the papers and by renting showy shops in the best streets in the West End of London, and in some instances real harm may be done. Of the writers in the *Standard* who speak of the supposed injurious effect of concave glasses on themselves, it is evident that some were not simply myopes, and that in others the myopia was of a progressive character. As an example of the manner in which the untrained mind draws illogical conclusions from false premises, we quote the following from one of the letters in the correspondence referred to: —"I am myself quite unable to bear the strain of lenses of even moderate power; were I to persevere blindness would ensue. * * * This certainly shows that the use of glasses produces a strain on the optic nerve; * * * and, as in a multitude of cases myopia is the result of enfeebled nutrition of the brain and nerves, some children of the poor might only be the worse for wearing them." As regards the opinion of competent persons on the effect of concave glasses, a few authorities hold that in some cases of myopia concave glasses which fully correct the optical defect may prove injurious if used for near objects. This view is largely held by French oculists, including Landolt. We do not propose now to discuss the grounds of this belief. All authorities are, however, agreed that wearing correcting glasses for distant vision is harmless. We publish in another column a letter from a correspondent who holds an opposite view, and thinks that those who differ from him are "dogmatic." We would, therefore, call his attention to a paper in Knapp's *Archives*, xv, 400, by Forster, in which will be found a few of the facts on which opinion is based.

Although there is little that is really of any value in this correspondence, the letter of "Oculus" is a brilliant exception. He has the good taste to conceal his name; but he evidently thoroughly understands the subject on which he is writing, and the same may be said of "L. R. C. P."

Like the *Standard* correspondents, we have wandered far from our theme. The state of affairs is this: Every child is compelled by law to attend school, and, by his teacher, to do his utmost for the credit of the school. No efficient preliminary examination is made of the child's mental or physical capabilities. He is placed in a certain standard, and every child in that standard must go through the same curriculum. A certain proportion—we believe a small proportion—are short-sighted or, at any rate, have defective distant vision. A teacher who is fairly intelligent soon discovers these, and they are sent to the nearest hospital for advice. In some of these glasses alone are required, and, as pointed out by "Ophthalmic Surgeon," there is little practical difficulty in procuring them. Others, however, require in addition a modification of the conditions of school life; and here appears the defect of the system. The surgeon can certify that the child is unfit to attend

school at all, but there is no middle course between staying away altogether and attending like other children. For the children of the better classes some scheme on the lines laid down by Dr. Maddox (whose pamphlet we review in another column) might be of service.

A very much larger proportion of children, however, suffer from hypermetropia. There may be no defect of distant vision, but looking at near objects produces headache, dimness, lachrymation, etc., either at once or after a time. The recognition of this defect is obviously less easy for the teacher, but the treatment is more simple, for in nearly all cases optical appliances place the child on a par with others, and there is no necessity to modify the curriculum. It is inevitable that, under the existing system, a large number of hypermetropes should struggle through their school life at the expense of much mental and physical suffering which might have been entirely avoided.

Now, as to the remedy. The first step that is necessary is, we hold, to abolish totally and for ever the grant-earning system. So long as this obtains, it is inevitable that every child should be looked upon as a grant-earning machine, and be worked to the utmost of his capabilities, regardless of the remoter consequences. In the second place, a knowledge of the "hygiene of the eyes" should be a sine quâ non for a school teacher. The arrangements for the lighting of the school-room may be perfect, the desks of the newest style, and print excellent, but all these real advantages will be, to a great extent, neutralized by a teacher who does not uneerstand the principles on which they are devised.

Again, every teacher should know what a child ought to see, and be able to ascertain whether his vision reaches this standard. In connection with this, we would call attention to Mr. Abbott's test card, which is reviewed in another column. He should also know how to recognize the subjective spmptoms of errors of refraction. These are matters which can be learnt easily; a few chapters out of Turnbull's translation of Cohn's Hygiene would give all the information required. Then some provision is required for the skilled examination of children who are thought to require treatment. This is at present supplied, and well supplied, by our hospitals; but these have no official connection with the school authorities, and for this and other obvious reasons, the hospital surgeon cannot advise the latter as to the treatment of the child in school.

We doubt whether a medical examination of the children's eyes on entering the school would elicit as much useful information as a more deliberate observation by an intelligent teacher. Fully 90 per cent of young children are hypermetropic, and it would not be possible to lay down a hard-and-fast rule as to what degree of hypermetropia should be taken to indicate the necessity for glasses. The general condition of the child, and the work it has to do, are important factors which could be better measured in the school-room than in the consulting room.

We believe that any fear of the nation becoming "purblind" is entirely groundless, but that an enormous amount of temporary suffering and permanent injury is needlessly inflicted we have no doubt; and this is a state of affairs that calls loudly for some inquiry and remedy. On the whole, we think the suggestion made by "Oculus" would be most likely to accomplish the object in view—namely; that a committee should be formed consisting of school board members, teachers, and ophthalmic surgeons to investigate the whole subject.—Ed. *Brit. Med. Jour.*

## POST-PARTUM HEMORRHAGE.

As regards the treatment of post-partal hemorrhage, if the practitioner make a habit of never removing his hand from contact with the uterus (through the abdominal wall) until after the child and the placenta are expelled, he will have the best means of avoiding this accident. As regards the use of ergot, it is best never to give it until after the contents of the uterus are expelled—to wait until after the placenta is delivered.

Of late, a revolution has taken place as to the best means to control post-partal hemorrhage. It is generally agreed that it is nec-

essary, first, secure the complete emptying of the uterus; and, secondly, to insure prompt uterine contraction, or what may be called primary involution of the uterus. The best means to secure these two conditions are to not exert much tractile force in the delivery of the placenta, and to secure prompt contraction of the uterus as soon as the placenta is expelled. Manual delivery of the placenta is at all times to be avoided, unles the uterus fails to accomplish this object. By adopting the method of Crede—by pressing upon the uterus as the placenta is expelled—we can usually avoid this accident. As soon as the uterus is delivered of its contents it is best to give the patient, immediately, a drachm dose of fluid extract of ergot, repeating the same in the course of ten or fifteen minutes if firm uterine contractions do not ensue. Where the amount of blood lost is large and the hemorrhage vigorous, it is best controlled by the intra-uterine injection of hot solutions of corrosive sublimate (1-2000); which at once induces firm, tonic uterine contractions, washes out any clots that may be in the cavity of uterus, and at the same time places the uterine canal in an aseptic condition. The temperature of the injected fluids should be 110° F. Where intra uterine irrigation for the control of post-partal hemorrhage is practised, it is well to secure the further and constant aseptic condition of the uterine cavity by the introduction of an iodoform bascillus. This method has been pursued by the author in hospital and private practice with the happiest results, and has yielded much better results than the older methods of the introduction of astringent solutions. Until the douche or irrigator can be gotten ready, hemorrhage from the uterus after delivery is usually easily controlled by manual compression—the lips of the uterus being grasped and the fingers of the one hand carried into the vagina, while firm compression of the fundus is made with the other hand through the abdominal parietes. In order to prevent recurrence of the hemorrhage, the child should be promptly put to the breast and kept almost constantly there; a drachm dose of fluid extract of ergot should be administered every two or three hours. Every practitioner of medicine should be, I take it, compelled by law to provide himself with the necessary apparatus for irrigating the uterus, and with a supply of fluid extract of ergot, which he should take with him to every case if labor that he is called upon to attend. These precautions followed out, we doubt of any fatal case of post-partal hemorrhage would occur.—C. M. W.

## BOOK REVIEWS.

TREATISE ON THE DISEASER OF WOMEN. FOR THE USE OF STUDENTS AND PRACTITIONERS. By Alexander J. C. Skene, M. D., Professor of Gynecology in the Long Island College Hospital, Brooklyn, New York; formerly Professor of Gynecology in the New York Post Graduate Medical School; Gynecologist to the Long Island College Hospital; President of the American Gynecological Society, 1887, etc. With two hundred and fifty one engravings and nine chromo-lithographs. Pp. xiv. 966 New York: D. Appleton & Co., 1888.

The fact that gynecology received in America its most decided impulse toward a scientific basis, is amply attested, and affords to us a most gratifying sense of elation and pride. It is with a kindred feeling of national vanity that we regard with us still those evidences of activity, growth and progress in this direction that will serve to maintain the prestige already established in this field of medicine. I think that when the merits of the recent work on "Diseases of Women" by Dr. Alexander J. C. Skene becomes known to the profession, it will be appreciated that his labors in this department are worthy of the highest regard, and that they will contribute most notably to the end indicated. Throughout the pages of this work will be observed evidences of originality, careful and industrious researches, wise and conservative deductions. The reputation that the author has so long enjoyed in these respects, is in this, his ripest production, abundantly sustained. Dr. Skene has had rare clinical advantages,and he sends home the lessons taught in every chapter by closing with illustration cases, a pleasing and highly instructive arrangement, serving to remove any sense of ambiguity, uncertainty or misapprehension, that might otherwise obtain. It is pre eminently a clinical outgrowth, and regarded from the standpoint of symptomatology, diagnosis and treatment cannot be too highly commended, whilst it would be unbecoming to criticise some of his conceptions of pathology. I think the expression may be permitted, that seemingly the field of pathology is not the most pleasing to him, at least not nearly so much so as the lessons of the bed-side. And in this respect the student is perhaps the gainer in view of the diversity of sentiment that obtains regarding many of the pathological states involved. No one who affects to practice gynecology should be without this valuable work.

G. H. B.

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## REPORT ON PROGRESS.

### DISEASES OF THE THROAT AND CHEST.

BY WILLIAM PORTER, M. D.

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III. PRIMARY CARCINOMA OF THE TONSIL.
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XIV. THE TREATMENT OF PNEUMONIA.
XV. ACUTE LAROR PNEUMONIA IN CHILDREN.

#### PAROXYSMAL SNEEZING.

The papers on paroxysmal sneezing by Drs. Sidney Ringer and William Murrell, in the *British Medical Journal* are the result of careful study. The authors include under this title "hay fever," "hay asthma" and "summer bronchitis," whether the attacks affect part or all of the respiratory tract. We would naturally expect these authors to be most thorough in the discussion of medication. They divide the remedies employed in the treatment of paroxysmal sneezing into two classes: "First those which break up the paroxysm; and secondly, those which by gradual action so modify the pathological condition of the mucous membrane that the predisposition to their return is removed. To the first belongs cocaine (which the authors highly recommend in the form of tabloids inserted in the nose), pungent inhalations of all kinds, but more particularly of iodine, chloroform, tobacco smoking, and nitre papers. These last, as usually prepared, are too weak to do much good. The authors recommend that the nitre paper should consist of six thicknesses of blotting paper steeped in a saturated solution of nitrate of potassium and chlorate of potassium. When dry it should be sprinkled with essence of camphor, compound tincture of benzoin, tincture of sumbul, or some preparation of stramonium, and burnt in a tin cup at the bedside. Strong black coffee, taken at the onset of the paroxysm may cut it short. Hazeline locally and internally may prove of service. The second category includes the iodides, arsenic, inhalations, or the use of a spray of a 2 per cent aqueous solution of iodine, and the removal of polypi and hypertrophied nasal tissue. When the attacks are attended with itching or irritation of some particular spot or region, the local application of aconite liniment, or aconite ointment may at once give relief.

#### THE LOCAL USE OF ANTIPYRIN IN THE NASAL PASSAGES.

Dr. Hinkle in the *New York Med. Journal* reports a number of cases in which he has

used antipyrin upon the nasal mucous membrane. His conclusions are as follows:

1. A solution of antipyrin possesses hemostatic properties when sprayed into the nose, though not superior to cocaine.

2. Antipyrin in about four-per-cent solution may be used upon the nasal mucous membrane with temporary relief to occlusion from engorgement of the turbinates, and with sedative effects upon irritable states.

3. It is most effective where the element of irritation exceeds that of inflammation.

4. It presents an advantage over cocaine in not producing local numbness and dryness,and in the absence of the general stimulating properties of cocaine, causing sleeplessness, headache, etc.

5. Antipyrine presents the disadvantage of causing more or less severe smarting and of being unequal to the relief of severe inflammation of extreme occlusion of the nares.

6. Its antiseptic and stimulant properties will probably make it serviceable as an application to fresh wounds and the granulations and ulcerations in the nasal chambers.

7. Combined with cocaine, it increases the local action of the latter, enabling it to be used in weaker solution.

After using many different kinds of troches, I have adopted the following formula as the best for a "voice lozenge" in the ordinary hoarseness of singers and speakers. A small piece may be made to dissolve in the mouth just before any considerable vocal exercises.

In each troche,

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| Cubebs, | - - - grain, | one-half. |
| Benzoic Acid, | - " | one-third. |
| Muriate of Cocaine, | - " | one-seventieth. |
| Powdered Tragacanth, | - " | one-fourth. |
| Extract of Liqorice, | - grains, | five. |
| Sugar, | - - - " | thirteen. |
| Eucalyptol, | - - minim, | one-fourth. |
| Oil of Anise, | - - " | one-twentieth. |

Black Current Paste, enough to make twenty grains.

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## Primary Carcinoma of the Tonsil.

Primary carcinoma of the tonsil is fortunately an infrequent occurrence. An interesting case is reported by Dr. G. R. Fowler in the *Brooklyn Medical Journal* for 1888. The patient was a woman 57 years old, who had a distinct lobulated movable growth of the left tonsil with enlargement of the lymphatics adjacent. The character of the pain, the patients age, and the hardness of the tumor were the main factors of the diagnosis. An incision was made in which the lingual and facial arteries were tied, and the tonsil being pressed toward the tumor was exterpated by means of a thermo-cautery without hemorrhage. The lymphatic glands although adherent to the carotid artery were removed. For eight months the patient was free from recurrence but the parotids of both sides were involved and the patient finally died of cancer of the stomach.

Mr. Symonds of London has recently reported a case of malignant disease in which removal of the tonsil, part of the tongue, soft palate, and pharynx was necessary. A subsequent recurrence demanded resection of half of the lower jaw.

A few weeks ago through the kindness of Dr. Mackenzie, of Chester, Ill., the writer saw an interesting case of rapidly progressing epithelioma which evidently had its origin in the right tonsil. Much of the tonsil was destroyed as well as the palatine folds and the greater part of the soft palate on the right side. The advanced age of the patient the infiltrated appearance of the tissues adjacent, and the rapid progress of the disease, as well as the final history of such cases that have been operated upon, were the determining influences in reaching a conclusion adverse to a radical operation. The temptation to operate in these cases is very great but oftentimes we think it is wise to preserve "a masterful inactivity" as good old Dr. Boisliniere would say.

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## The Treatment of Papillomata of the Larynx by Means of the Curette.

The treatment of papillomata of the larynx by means of the curette is the subject of a

clinical note in the *Journal of Laryngology* for February, 1889, by Dr. Massei, of Naples. After speaking of the tendency of papillomata to recurrence or to the formation of new papillæ after removal of the larger portions he makes this remarkable statement: "I have operated with many kinds of forceps, English, French and German, and have had made in Italy several special forms of instruments. I have also tried alum, tannic acid, nitrate of silver, perchloride of iron, absolute alcohol, chromic acid and the galvano-cautery; but I cannot conclude to have ever any evident benefit follow their use, which, however, I have always found in connection with forceρ operations."

While agreeing with Prof. Massei in the main I cannot willingly endorse so sweeping a denunciation of such local agents as chromic acid and the cautery. The former I have found valuable in destroying small flat growths which I could not seize with instruments. Prof. Massei, however, insists on the great advantages obtained by curettes in infiltrated diffused papillomata, and even in cases of subglottic tumors or small growths situated on the edges of the vocal cords. He adds that the so-called "curetting" deserves greater appreciation than it obtains at present; that besides the facility of operation portions of the tissue are successfully removed from which the growths originate, and for this reason and also for the reason that more direct after treatment by direct applications is permitted (lactic acid is preferable), this method gives greater security against recurrence, which is the most serious result to be feared in the treatment of laryngeal papillomata.

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## A New and Only Way of Raising the Epiglottis.

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A New and Only Way of Raising the Epiglottis is the rather startling headline of a paper read before the Medical Society of London, and published in the *New York Record* of Nov. 24, 1888. The author is Dr. Benjamin Howard, who has been investigating this subject for more than twenty years. For a long time he accepted the teaching that in apnea the epiglottis falls backward and closes the glottis, that the only way that the epiglottis can be elevated is by means of the tongue; as the tongue is brought forward the epiglottis is moved upward. Unless this is done respiration is prevented and the result is fatal. The author believes that, contrary to general belief, traction of the tongue does not and can not raise the epiglottis. After many experiments he now asserts that by sufficient extension of the head and neck the epiglottis is instantly made completely erect. In order to make complete extension of the head and neck the patient should be brought to the edge of the bed or table, one hand should be placed under the chin and the other on the vertex, and the head should be steadily but firmly carried backward and downward; the neck will share the motion which must be continued until the utmost possible extension of both head and neck are obtained. In this way the epiglottis is certainly and easily raised.

The investigations of Dr. Howard merit attention. If his method will produce the results which he claims, it will be almost as much of an addition to our resources in cases of sudden danger to life as is the now well known procedure of lowering the head in cases of threatened death during the administration of anesthetics.

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## A Subglottic Laryngeal Tumor of Cartilaginous Formation.

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A subglottic laryngeal tumor of cartillaginous formation was reported last November in the *Med. News*, by Dr. E. F. Ingals, of Chicago. The tumor was found in a man 24 years of age, and was situated just below the anterior commissure. It was yellow, smooth, but slightly nodular and occupied the inner surface of the thyroid cartilage Dr. Ingals cauterized the tumor by means of chromic acid on the end of an aluminium, which was protected by a section of small

rubber tubing, cut away at the lower end so as to expose the acid in front.

This is a rare condition and a very simple and effective way of treating it. It is certainly better than the galvano cautery, and forceps could hardly be applied to a growth in this position and of this formation.

### Laryngo-Tracheal Ozena.

Dr. Luc, of Paris, a year ago published his first observations on this subject in the *Archives de Laryngologie*. At that time he had noted three cases and having been able to follow two of these and to observe new cases, he has written an interesting article which was published last month in the *Journal of Laryngology*. The diagnosis of tracheal ozena may be made if there is a persistent fetor of the breath after the nasal pharyngeal cavities have been thoroughly cleansed, if the patient expectorates fetid sputa, and the diagnosis is certain if upon laryngoscopic examination the walls of the trachea are found covered with crusts.

In the treatment of this condition Dr. Luc has found insufflation of antiseptic powders useless. The injection of a lukewarm solution of boric acid directly into the trachea by means of a syringe with a curved canula was of some value, but the author gives decided preference to the use of an inhaling apparatus by means of which not only steam but a solution of thymol is aspired into the larynx.

### Fibrinous Laryngo-Tracheo-Bronchitis.

Two cases of fibrinous laryngo-tracheo-bronchitis are noted in the last number of the *Journal of Laryngology*. The first was under the care of Dr. Ivanhoff of St. Petersburg. A girl of 17 suddenly had severe cough accompanied by fever and prostration. In the course of a few days the cough suddenly became dry and dyspnea occurred. None of the ordinary methods of medication bringing any relief and the case becoming urgent, tracheotomy was performed, which was only partly successful at first. At last Dr. Ivanoff by means of small feathers introduced through the opening removed the membranes and all the symptoms of asphyxia disappeared. Several relapses yielded to the same method of cleansing.

The second case was reported by Dr. O. V. Petersson, of Sweden. The patient, a young man of 18, had a slight cough but no difficulty of breathing. After a while he expectorated a white mass which was an exact cast of the bronchial tubes to their smallest ramifications. Complete recovery followed without any trouble.

### The Surgery of the Thyroid Body.

The surgery of the thyroid body is the subject of a communication by Dr. W. H. Harsant to the *Bristol Medico-Chirurgical Journal* for December, 1888. The author is opposed to any cutting operation for simple hypertrophy unless there is serious distress or danger. He has treated a large number of cases by injections of iodine and ergotine, but in most cases the result was disappointing. In the fibrous variety incision seems to him to be the only successful method of treatment.

The writer can heartily endorse the position taken by Dr. Harsant as to the needlessness of operative interference in ordinary hypertrophy. The injection of iodine, however, has certainly been of use in a number of cases, while the East Indian method of repeated applications of the ungt. hydrarg. biniodidi has been of decided value.

### Cystic Goitre.

Cystic goitre was the subject of an interesting discussion last November in the Soc. de Med. du Canton de Fribourg. Dr. Buman reported an enormous lateral cyst which progressed so slowly under treatment by drainage that in a second case he performed excision with favorable results. Dr. Weck proposed substituting excision for injections in all cases of cystic goitre. Dr. Neiss believed

that a cyst could be completely extirpated without entirely removing the thyroid gland.

There is certainly great difference in the readiness with which different thyroid cysts yield to treatment. A case which I had under observation some months ago was completely relieved by simple puncture of the cyst. It is true that the cyst was not a large one, and as the patient wanted temporary relief until such time as he could submit to more radical procedure the fluid was withdrawn and to my surprise there has been no recurrence. In several instances I have followed the line of treatment which I narrated in the Laryngological Section of the last International Congress, *i. e.*, inserting through the canula after the fluid has been withdrawn a piece of ligature previously steeped in iodine. This being withdrawn a little piece daily has set up sufficient inflammatory action to effect adhesion.

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### Strophanthus for Exophthalmic Goitre.

This remedy is gradually gaining favor and now constitutes part of the standard treatment in cases of this disease. Dr. D. E. Brower of Chicago in the *Jour. Amer. Med. Ass'n.* has a valuable contribution founded upon three cases, in all of which, recovery or satisfactory progress resulted. At first two drops were given every six hours and the dose gradually increased to ten drops, which had the effect of bringing the circulation under control. Dr. Brower does not depend upon strophanthus alone but advises the free use of tonics and galvanism.

The writer must confess that he has not found much reason for congratulation following the use of galvanism but it is possible as Dr. Poole said a year ago that galvanism is not often applied on the correct theory.

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### Hot Dry Air in the Treatment of Consumption.

Among the curious contributious to medical journal colums is an article in the *Med. Rec.* upon this subject by Dr. Weigert of Berlin. He figures an apparatus which consists of a heating cylinder burner and inhalation tubes. The gas is turned on, the air is heated, the patient inhales and the pulmonary disease is dried up. Unfortunately the learned Dr. founds his argument upon the fact that tubercular bacteria are destroyed at a temperature which the patient can easily inhale through this cylinder. This might be almost a specific except for the fact that we have no proof that the said bacteria cause consumption. It is true they are generally present, but so far those who have endeavored to cure phthisis by warring with the bacilis have lost valuable time and made little headway.

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### Creasote in Pulmonary Phthisis.

Very much has been written upon this subject lately and one of the most valuable papers is that of Dr. Beverly Robinson in the *Amer. Jour. Med. Sci.* for January. We much doubt if all of the good things which are now said about this remedy will be remembered a year hence, yet it certainly seems to have some virtue. Dr. Robinson believes that it should be taken at first in small doses, which may be gradually increased. He prescribes three to six minims daily (given with whisky and glycerine) in half minim doses. Eichorst combines arsenic and creasote where there is excessive secretion with difficult expectoration, while Dr. Douglas Powell combines creasote with opium and finds it of great service where there is stomach and upper bowel trouble.

It cannot be too strongly insisted upon that great care should be taken in the selection of the creasote. The ordinary vile compound, a cold tar product we believe would make a well man sick, and fail to make a sick man well. The best beach wood creasote should be chosen and we believe may be given in larger doses than Dr. Robinson advises.

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### The Treatment of Pneumonia.

This was the subject of the address of Dr.

Maragliano before the First Congress of the Italian Society of Internal Medicine, recently held in Rome. He began with the assertion that the disease is infectious, a local inflammation in the lung, due to micro-organisms. The greatest danger in pneumonia is the increased heart action, due to the difficulty which the heart has in forcing the blood through the inflamed pulmonary tissue and also to changes in the myocardium on account of imperfect nutrition resulting from high temperature. This is the position of Jurgensen, but the Italian physician believes that the condition is owing primarily to a new toxic material in the blood; this is the poisonous material eliminated by the micro-organisms.

Efforts to destroy the micro-organisms by injection into the lung or by inunctions, or by the administration of antiseptics, have not been productive of good. In twelve cases the author abstracted from five to ten ounces of blood from each, on the fourth or fifth day. There was an improvement in circulation but no change in temperature following the blood letting. The twelve patients recovered and the author shows a certain amount of respect to venesection.

High temperature which is often a source of danger should be reduced and the best agent is the graduated bath. The heart should be supported, not only by generous easily digested diet and alcohol, but digitalis should be given if necessary, though when quick action is desired strophanthus should be used. If the right heart is oppressed blood letting may be of great service.

This is sound treatment and represents the most advanced thought. Many physicians will still want to add at least one old-fashioned remedy, the hot poultice, it must be confessed that whatever the explanation, the result of its proper use is excellent, but a poor poultice is worse than none. Again we would emphasize the main thoughts given above. Keep up the heart action, keep down the fever. Use stimulants rather than depressents.

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## Acute Lobar Pneumonia in Children.

Acute lobar pneumonia is the subject of a paper read by Dr. C. W. Townsend before the Suffolk District Medical Society. He first made the very important distinction that lobar pneumonia is not lobular or broncho-pneumonia. The first is an acute specific inflammation, whereas the broncho-pneumonia is more chronic, being secondary to a bronchitis.

Lobar pneumonia is often overlooked in children because the definite signs of the disease are wanting. There is seldom a chill or rigor at the beginning of the disease in very young children but there may be vomiting and convulsions.

The pain which is so frequently found in adults, is seldom found in young children;the rusty expectoration is often absent.

In addition to the physical signs which determine the differential diagnosis, broncho-penumonia is less sudden than pneumonia. In pneumonia the temperature is higher than in broncho-pneumonia, and the latter disease never ends in a crisis.

In considering the subject of broncho-pneumonia in children, Tordens says says that the age of the patient is an important matter in prognosis. The older the child the more readily does it sustain the attack. Henoch prescribes local blood letting such as dry cupping over the chest and small blisters after the fever has diminshed. Large vesications are harmful. Ipecac may be given, but emetics are seldom indicated as they are apt to cause postration. Tordens uses small doses of morphia. He sometimes envelops the patient's chest in cold water compresses, and keeps the atmosphere in the room constantly moist.

We cannot help but think that the physician who would confine himself to the above methods would be doing less than his whole duty. In all cases of broncho pneumonia it is especially important that nutrition should be aided, and that secretion should be stimulated. The liver, the kidneys, and certainly the skin should be kept in a state of func-

tional activity, and last of all where the child is able free chest exercise should be insisted upon.

## ORIGINAL ARTICLES.

### SOME USES OF NUX VOMICA.

BY FRANK R. FRY, M. D., ST. LOUIS, MO.

Read before the Medical Press Association.

Dr. G. A. Gibson, in the *Prac.* for December, 1888, presents a good argument for the use of strychnine in poisoning from narcotics of various kinds. He condemns enforced walking and other measures that have a wearing or exhaustive effect on the vital powers, the central nervous system. Instead he recommends that 1-100 to 1-50 of a grain of strychnine be given subcutaneously at intervals of an hour or so, until a proper quantity is used, as indicated by the patient's breathing, etc. Of course much discretion must be used in exhibiting the drug under such circumstances. But I think Dr. Gibson's position is a good one to take. I remember not infrequently, especially in hospital practice, to have seen patients who had taken large doses of opium walked in a semi-nude state for the greater part of the night or day up and down a long corridor of the hospital, where at convenient distances were placed relays of nurses or assistant physicians armed with switches or wet towels to flagellate the poor victim until his unprotected skin was red and blue. It occurred to me, even then, that without the help of a narcotic or other means, such treatment was calculated to kill patients. No doubt it has killed some.

Some time ago I remarked a statement made by a writer whose name I cannot recall, that nux vomica or strychnine in a single good-sized dose taken on retiring to bed at night would often secure sleep in certain cases when there was insomnia due to fatigue. I have proved to my satisfaction the correctness of the statement. When patients complain that they are so tired that they cannot sleep, a condition in which many often are who suffer from nervous exhaustion, either of an acute or chronic kind, there is frequently an indication for a good-sized dose or strychnine on retiring, advantageously combined sometimes with a small amount of suitable nourishment. Headland, in his classic work on "The Action of Medicine," says that this drug "has no claim to the title of sedative, which is sometimes applied to it." Not primarily, of course, but secondarily it has a sedative effect; in that by its stimulating action on the nerve-centers it may relieve the general irritability that is occasioned by an exhausted condition of the same.

It is no secret to most physicians of practical experience that in the treatment of atonic dyspepsia, nervous dyspepsia as it is sometimes called, from which so many Americans suffer, no remedy nearly equals nux vomica or strychnine. Yet, a limited observation of our habits of prescribing leads me to believe that we do not rely on it to the extent that we may with a careful selection of our cases. We are prone to combine with it pepsin, and often, I think, disadvantageously. In the use of the latter substance we are bringing in an outsider, so to speak, to do the organ's work for it, whereby there is danger of getting it out of the habit of performing its proper task. There is not here the same necessity for rest as in inflammatory diseases, but having established proper dietary restrictions, there is the necessity of awakening the mucous lining to the full performance of its function. Quoting Lander Brunton's work on Disorders of Digestion, etc.: "This condition depends on weakness of the circulatory and nervous systems. For the secretion of gastric juice demands not only an action of secreting cells, but also a full supply of rich blood to supply the materials needed. Both the cells and the blood vessels are under the direction of the nervous system, and unless it responds to the stimulus of food, the cells do not secrete, the blood-vessels do not dilate, the juice is not poured out, and digestion does not take place." * * * "Strychnine increases the excitability of the reflex centers, including those which

preside over the vascularity of the stomach and the secretion of its cells, and thus ren ders them more ready to respond when the stimulus is applied to them."

In the *Jour. of the Amer. Med. Ass'n*, Jan. 19, 1889, is a suggestive article by Dr. James J. Levick, of Philadelphia, on "Heart-Strain and Weak Hearts." In the treatment of this condition of weak heart, so well described and discussed in this article, there is other good authority added to Dr. Levick's to the effect that there is often opportunity to show the value of the drug especially recommended by him in these cases, namely: "The prolonged use of moderate doses of nux vomica, five drops of the officinal tincture, three or four times daily." Nux vomica is not known to have any direct effect on the heart; even in poisoning by it the heart is unaffected. Yet, as stated above, its beneficial effect in this condition of weak heart is thoroughly attested. Explanatory of this fact I quote the terse concluding paragraph of Dr. Levick's paper:

"I am indeed quite disposed to believe that in the morbid condition we have been considering, it would be better to dismiss from our practice those medicines which are supposed to act directly on the heart and to content ourselves with those remedies which act by improving nutrition and giving tone to the general system. For, after all, it is not the heart tissue which is alone affected, or which is the most important factor of the disease. Rather is this to be found in those structures which preside over its innervation, nutrition and function—those great ganglionic centers, of which we say so much, but know so little—which are indeed the Huguenots of pathology, to which everything that is obscure or undetermined in the ancestry of disease is with such complacency and self-satisfaction attributed."

I shall close my desultory remarks this evening with some correspondingly random and brief observations on the use of nux vomica in St, Vitus's dance.

As early as the year 1841, Trousseau and others demonstrated the value of nux vomica and its more important alkaloid, given in this disease in a methodized manner, that is, gradually and cautiously increasing the dose until its physiological effects are marked.

Dr. Wm. A. Hammond in the earlier editions of his general work on diseases of the nervous system recommends strychnine almost to the exclusion of other drugs in the treatment of chorea. In subsequent editions he backs out of so confident a position—not very gracefully either—and in a manner to lead one to think that he has almost abandoned the drug in this connection.

Others certainly have followed his example. The reason for this is evident. As Troussean and others have so well shown, in relying on this drug as the pri cipal agent, a marked success is only to be had, in treating any considerable number of promiscuous cases, by giving large doses. In giving such large doses there is the possibility not infrequently of producing an inconvenient or even alarming excitement. Hence there is a degree of caution necessary that with careful physicians amounts almost to timidity. I have several times in bad cases of chorea used strychnine in this heroic manner and in two cases that I remember well with marked success when other remedies had failed. More frequently I have used it in continued doses with no attempt to increase it to very large doses. It is in favor of using it in this moderate way in chorea that I want to say a word. It would, perhaps, be impossible for me to discribe exactly the indications for the use of it. I would not give it in violent cases. I would prefer to be satisfied with arsenic and iron in cases accompanied with marked anemia. When tne condition is one of asthenia without marked anemia I would (and have frequently done so) use it. When paralysis is present I would always use it. By the way, it was the beneficial effects that Trousseau remarked when using it in 1831 in cases when paralysis was present that led him to persist in its use until his results warranted him in formulating the method above alluded to.

I am now treating a case of chorea in a lad

of 15 years that has been in my charge since the 27th of last month. Arsenic, iron, the former increased carefully until he was taking 15 ♏ of Fowler's solution, t.i.d., hyoscyamine, choral and the bromides had little or no effect, the movements continuing unabated in a violent form. His younger brother was seized with a typical tertian malaria that soon yielded to quinine. I immediately gave good sized doses of quinine to my choreic patient. There was a very marked improvement within twenty-four hours that has steadily continued, although the movements are present yet in a mild form. I noticed for the first time one week ago a paresis of the right upper extremity. Since that time he has been taking one-half a grain of nux vomica t.i.d., and is improving every day, sleeping and eating better than at any time since the attack began.

I had thought to say something about the abuses of nux vomica, but I realize that there is no better way to avoid these than by a careful and scientific study of its many valuable uses.

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Discussion.

Dr. Bond.—If I speak from the stand point of a gynecologist I don't know that I have anything special to say on the subject, I don't attach a great deal of importance to the alleged elective agency of medicines in gynecology, that is, I don't attribute to them as much as many physicians do in their distinct influence on the utero-ovarian system. I cannot say that in my experience strychnine is an important agent in this direction. I have had some experience in its use as a remedy for various affections. I regard it as a most valuable agent in those forms of paralysis due to central lesions, in the absence of pronounced inflammatory conditions. It is perhaps one of the few agents, that is strictly a cerebro spinal stimulant. Its influence is exerted principally on the cells of the cerebro-spinal nervous system, and it does not exert an influence on the nervous trunks except through the cerebro-spinal cell. Kolliker and others have demonstrated that strychnia does not have any influence on the nervous trunks independently of the central nerve cell. It stimulates alike the entire center of muscular motion. So far as its use in chorea is concerned, I have used it, but I have never been impressed with the fact that it was possessed of any pronounced value in that direction, and in some cases I thought it did harm. I do not think that strychnine can be regarded as of very decided value in this connection. In a very large percentage of cases of chorea there is rheumatic diathesis, and the use of salicylate of sodium is indicated in conjunction with arsenic, iron, and other agents, that build up the nervous system. We have a class of nervous subjects who are positively made worse by the use of strychnine. Nervous women are often peculiarly sensitive to small doses of strychnine, so much so, that when I meet with a nervous woman I am very cautious in prescribing it. It seems to aggravate and intensify her nervousness, gives her twitching of the limbs and disturbed respiration, prominently so in hysterical subjects. I remember a very nervous lady who insisted on taking a great deal of medicine, and she annoyed me very much by constant demands for prescriptions; I prescribed strychnine for her several times, with a view of satisfying myself whether there was anything in this idea I have spoken of. Every time I prescribed strychnine for her, she was made worse, and that was not the only case observed with this view. The ordinary dose of strychnine as given, from a sixth to a sixteenth of a grain (Stille), is, I think, an unsafe one. I think it is unsafe to begin with. I produced symptoms of poisoning by giving a thirtieth of a grain. The patient did not take more than three doses when the enbarrassment of respiration—spasms of the respiratory muscles and of the jaws—was so great that the symptoms really became alarming to me and I gave her tremendous doses of choral, which, controlled the symptoms very promptly. I also insisted on quietude. We all know that if persons are kept quiet under such circumstances, the symptoms are much more easily controlled. The good effects of strychnine

are certainly pronounced in cases of paralysis especially when due to a central lesion of the cerebro-spinal system. Commenced in small doses and gradually increased, until the physiological effects of the drug have been obtained,thus used much good is accomplished. It exerts a salutary influence in certain forms of dyspepsia. It is good in overcoming constipation, especially when given in conjunction with other drugs.

Dr. R. L. Thomson.—Strychnia is recommended in beginning atrophy of the optic nerve. I have given it hypodermically, beginning with one-fortieth of a grain increasing the dose each day until I gave as much as a quarter of a grain daily, before getting the physiological effect of the drug. I have never given more than this at a dose. I have continued these injections for weeks in succession in a number of cases, and in no instance did I get a favorable result. Cases been have reported in which the vision was restored by this means. I do not believe they were cases of optic atrophy.

Dr. Bransford Lewis.—I wish to heartily agree with Dr. Fry in what he says about walking a patient around who is suffering from morphine or other depressing nerve poisons. I have not read anything leading to the same conclusion, but from the effects of that procedure on some patients at the City Hospital I haven't a doubt that it is severely weakening and exhausting to them. In one patient especially, it seemed to be a material factor in leading to the bad outcome of the case, as before that method was used, he was apparently getting along very well. It was then applied to keep him from going to sleep, but he soon became worse and not long afterward died. Since that time I have most strenuously objected to that method of treatment in such cases.

Regarding the valuable tonic influence of strychnine, when given internally, I think there can be no doubt; but I wish to testify in support of another influence possessed by it which is also of very great value; that is, its power of stimulation when used hypodermically in large doses. I believe that the importance of strychnine used in this way is not sufficiently recognized by the profession, as I have seen no mention of it in the journals. It is particularly advantageous in cases of profound adynamia and nervous exhaustion, and during convalescence, or even the lowest stages of wasting diseases.

I have used it in many cases of chronic alcoholism where the coma following the acute delirium would show the depth to which the system was affected. A hypodermic injection of one-twentieth of a grain of strychnine given three times a day has, under such cirstances, assisted very materially in bringing about a favorable result in many cases. I remember one case which came under my observation at the Female Hospital. It was a case of puerperal fever, with most profound debility. There was hardly any pulse and absolutely no inclination to take nourishment of any kind. We gave her strychnine injections, and these, conbined with suppositories and the best of brandy brought her around all right.

A recent case of pneumonia in a female patient, who was about as sick as they ever get to be, without dying, was favorably influenced by the same treatment. In fact, we have been so impressed with its value that it has become almost a routine treatment in cases where that condition of adymania is present.

Another condition in which I have seen the beneficial effects of the strychnine shown was in a case of paralysis of one arm from peripheral neuritis. We injected strychnine hypodermically into the arm and eventually he recovered its use.

Dr. J. R. Lemen.—I was pleased with the paper generally and especially where it speaks of atonic dyspepsia; the point made by Dr. Fry is good. In those cases pepsin is often given with, in the end, detriment to the patient. Pepsin gets the stomach used to having its work done for it and it fails to do the work itself. In cases where we know that the secretions are not changed, but merely diminished in quantity, I believe it is good.

Another use of strychine, that I think I have gotten a great deal of benefit from, is, in sickness during pregnancy. I have found it beneficial in cases in which the symptoms pointed to uterine trouble. I have tried it in certain cases to procure sleep and I thought that the benefit derived was decided.

Dr. Fry.—Strichnine is not a cerebro spinal irritant. It has an effect on the spinal cord but not on the brain. At any rate, no higher than the fourth ventricle. In a patient suffering from strychnine poisoning, the brain remains unaffected, perfectly clear, and that is one thing that makes death from strychnine so horrible. In cerebral lesions it is beneficial, because of the power it possesses of correcting nutrition. It has a wonderful effect in improving the nutrition of the body generally.

It has been thought to have been shown that strychnine has no direct effect on the terminal nerves, but the fact is that the hypodermic injections into the paralyzed parts is more beneficial than it is when made at random. Lauder Brunton admits this fact, I think.

Now so far as its use in chorea is concerned that is amply established. There is no question about the effect it has in chorea. Trousseau, and other prominent observers, French and English, acting at the same time, but independently, proved conclusively its effect. Wm. A. Hammond, who has had a large experience for many years, says that he has thus treated 70 cases with success.

There is a drawback, however, that I have mentioned, the danger of creating excitement. Of late years other remedies have been found which are largely beneficial without the objection spoken of. We are not warranted in concluding that the excited conditions of the nervous centers in chorea are always due to a hyperemic condition of the centers. It possibly is sometimes due to an anemic condition in which case they are as much excited as in a condition of hyperemia. In this condition of anemia treatment with strychnine is advantageous. Even in hyperemic conditions it may have a beneficial effect by diminishing the caliber of the arteries by its tonic effect on their coats.

I agree with Dr. Bond about the disadvantages in attempting to use this, or any other stimulant in some hysterical women, even in small doses, but there are certain conditions of nervousness and irritability that are due to anemia. In these cases it acts beneficially. It takes considerable power of discrimination to tell the cases in which it may result advantageously. I think that in quoting Stille, Dr. Bond must have observed a misprint, for that is certainly not the dose given generally. A 60th to a 16th is the dose about as it is generally given. Trousseau gave the drug as high 1 1-5 grain per day; which caused nothing more than physislogical effect that could be controlled.

There is no doubt about the advantage often of using it in the alcoholic cases to which Dr. Lewis has referred, in the condition of nervous exhaustion that often follows alcoholic excesses. It is often the best remedy we possess. Combined, for instance, with coca we have a splendid couplet to use.

I believe that on account of its great value this remedy is apt to be abused, to be used without discrimination, and to cause much harm, and yet I don't know of another drug with a greater range of usefulness. We cannot study it too carefully. For instance, in the cases of paralysis of the central organs, referred to by Dr. Bond, there is a great deal of carelessness in its use; it is hard to discriminate always and use it properly. I have been wonderfully surprised at the advantage gained from it, I have seen cases of undoubted spinal hyperemia greatly benefited. I was recently called in to see a case of spinal hyperemia in consultation with a physician who insisted on giving large doses of nux vomica and the case was then only about two weeks old. The effect was markedly beneficial. It is very hard from the symptomatology to decide when we may, and when we may not use it. Many hold that it should not be used when the reflexes are exaggerated.

There is almost a perfect unanamity in this respect in the text books. We must not for-

get that the reflexes are often exaggerated when there is no hyperemia of the cord and in these cases strychnine will not have any effect one way or the other. I have seen it given in transverse myelitis where the reflexes were enormously exaggerated without creating more excitement. There is a condition in which inflammatory symptoms have long subsided and it does not do any harm to give strychnine, and especially if there is an indication for giving it on account of the general health.

Dr. Bond.—The class of women who have been made more nervous have been usually anemic subjects, and I don't see how the explanations given by Dr. Fry would be likely to apply. In states of hyperemia of the centers of the cerebro-spinal cells, it would seem to me that the drug would be beneficial in accordance with such reasoning, and yet it seems in my observation to intensify excitement when such conditions might be inferred.

Dr. Fry.—Do you always find that result?

Dr. Bond.—That has been the result so often that my attention has been drawn to the fact. I have never read of it.

As to the use of strychnine in chorea I know that it was used a great deal in former years, but I don't think it is used so much now. A very large percentage of cases of chorea will get well under any treatment—given good hygienic surroundings. So it is a question whether we do not attach too much importance to the remedies we prescribe in this disease.

Dr. Fry.—I agree with you and yet it is of great advantage to cut short the chorea when we can with rational therapeutics.

Dr. Bond.—Certainly, and yet this natural tendency to recovery will lead us to attach too much importance to the drug. Another direction in which strychnine possesses decided worth is in the treatment of impotency. Of all the remedies used for that purpose there is no one agency so beneficial.

Dr. I. N. Love.—The remarks that have been made, principally those made by Dr. Bond, have aroused my interest.

The doctor has manifested already some little tendency in the direction of therapeutic nihilism; I think it was in a former discussion on diphtheria. He has just expressed similar ideas in reference to chorea, that the disposition to recovery if let alone was great, and suggested also that in gynecological trouble his line of thought was in the direction of mechanical measures for their relief rather than medicines. I think the suggestion of Dr. Lemen that some treatment which will improve the general health of the patient, the condition in which women manifest a general weakness which is brought about by over-exertion, excitement and mal-nutrition, everything suffers and the center of her solar system, her generative apparatus, suffers with the rest, and if she receives treatment which improves nutrition, her uterus is benefited, together with the rest, without the need in many cases, of the gynecologist at all. I think that the key note has been struck by Dr. Fry in his discussion of this remedy by saying that it is an improver of nutrition. I think that that is the secret of the great good it does in chorea, and it is a most valuable remedy in this disease. I think that many of the cases of chorea are primarily dependent on the run-down condition of the nervous system, coupled with that which prevails with children to a marked degree, bad digestion, caused by irregular eating, improper food, with stuffing, aggravated by capricious management in the home. The children suffer from catarrhal dyspepsia, impoverished blood and starved nerves, and chorea is soon a complication. In such cases the ideal treatment is the correction of the stomachic disturbances, the aiding of nutrition and I think that we have in two remedies the most valuable aid in this direction, remedies which have been largely used by homeopaths in this disease. I refer to the bichloride of mercury and nux vomica. Many of the diseases of children can be relieved by these two remedies. They improve the secretions of the alimentary canal and relieve dyspepsia by preventing fermentation and stimulating secretion. Nux vomica serves as

an aid to digestion by stimulating and toning up the muscular coats of the stomach and intestinal canals, relieving constipation at the same time and serving as an excellent general tonic. For these reasons it is of great value in chorea.

Dr. Bond.—As regards the criticism of Dr. Love as to my faith in drugs, I will state that my remarks had reference especially to those agents which are supposed to possess an elective influence over the uterus and the adnexa. I believe that there are but exceedingly few drugs that possess any such elective influence over the utero ovarian system and it was in that direction that I spoke especially. I know that there are certain drugs that are supposed to exert an influence in that direction, but I believe that undue importance has been given them and that there are very few drugs that really act in that way. Ergot, borax, apiol and permanganate of potash have been supposed to exert such special influence, but my observation has impressed me that they do not have the degree of influence attributed to them in this connection. So far as the influence of medicines on the general system is concerned, in the improvement of general nutrition, I am thoroughly committed to the value of all such in the treatment of uterine diseases, in fact in the treatment of all diseases to which flesh is heir. If we are going to treat special diseases, we must have a knowledge of the treatment of general disease. In order to benefit a part, the whole must first be benefited, and I suppose there is no physician in the city who is more given to the habit of prescribing general medicines for the benefit of local conditions than myself. If the general condition is improved there will be a corresponding improvement locally.

I am skeptical in regard to many drugs; I feel that virtues are ascribed to many drugs that are not possessed by them, and it is especially in reference to diphtheria that this is the case. If you take the whole category of diseases it will be observed that many popular errors as to the virtues of certain drugs obtain in relation to them. Upon a closer study of many drugs they will be eliminated from our lists.

Dr. Love.—The same may be said of all our knowledge and of all the means we are in the habit of bringing to bear upon disease for its relief, whether mechanical or medical.

There can be no question, however, of the fact that in proportion as practitioners become imbued with the idea of relieving disturbed conditions by tools upon which they can keep their fingers, by instrumental means, unless they are careful they will be disposed to lose their faith in physic.

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Treatment of Tonsilitis.—In the *Therapeutische Monatsheft* for December, Dr. A. Hillaby highly vaunts the results obtained by administering at the onset a simple cathartic, such as the infusion of senna, and following this up with doses of 9 to 12 grains of sallicylate of sodium several times a day. Under this treatment, he says, the fever and the local inflammation subside rapidly, the activity of the skin is re-established, and the formation of the abscesses in the tonsils is prevented. He recommends diminishing the dose of salicylate of sodium when the inflammatory process is subsiding, but to continue it in small quantities until a cure seems assured.—*Nat. Drug.*

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The *Century* for March, contains an article on the uses of electricity, that is of great interest to sanitarians. The use of the electromotor enables manufacturers to build their establishments on high grounds away from the proximity of water-courses and by lessening the weight of machinery in the buildings admit of more windows giving better light and better ventilation.

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The Secretary of the West Virginia State Board of Health writes: "An evidence of the advancement of our people in the knowledge of sanitation and its great advantage is their ready acquiesence in the rules and regulations of both State and Local Boards of Health.

WEEKLY MEDICAL REVIEW,
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SATURDAY, FEBRUARY 23, 1889.

IN THE New York *Medical Record* of Feb. 16, is an editorial on "Medical War in St. Louis." In said editorial the statement is made that the recent trouble in the St. Louis Medical Society was a strife between the "conservative members" of the society and "a number of aggressive gentlemen more or less connected with the WEEKLY MEDICAL REVIEW."

The source of the Record's information is evident, and we have little to say for an editor who thus abuses his position, in assuming as true that which is untrue, to wilfully injure his fellow workers.

We make this statement once and for all; any affirmation or implication that the WEEKLY MEDICAL REVIEW, or the Medical Press Association is inimical to the best interests of the St. Louis Medical Society, or was in any manner a factor in the recent difficulty, or responsible for the late trouble in the Society, or that the members of the Association have resigned from the Society, or have been arraigned by the Society *is false.*

The members of the Press Association have this advantage over the New York editor, they are loyal not only to their local and national societies, but to the profession to which they belong.

## THE USE OF GLASSES BY HYPERMETROPIC CHILDREN.

In a lecture on this subject Macnamara (*Brit. Med. Journal,*) raises a question of great importance that has hertofore received but little thought. He called attention to a well established fact that by far the majority of young children are hypermetropic, and then said: "A very large proportion of these children grow out of the hypermetropia and become emmetropic; but I think this change may be delayed, if not prevented by the constant use of spectacles."

This is certainly a very important point, and one that can only be decided by the records of cases extending over many years. It seems to be a thoroughly established fact that properly adjusted concave glasses in a goodly proportion of cases will arrest the development of myopia, this being an obnormal condition, but it does not follow that convex glasses will arrest the development of emmetropia, which is a normal condition. Macnamara holds that the eye is governed by the law that controls other members of the body, in that a certain amount of exercise is essential to its proper development. This, to a certain degree, is true, but to what extent it plays a part in the development of the eye must yet be determined. It is a common observation that the power of accomodation of an eye may become so reduced by the constant use of glasses that the patient cannot comfortably do without them. This, however, has to do with the development of the ciliary muscle, and not with the shape of the eye. Very few cases of hypermetropia in children require a complete correction, and it should be remembered that even when complete correction is made there still remains as much work for the ciliary muscle to perform as if it were an emmetropic eye. The author quoted above holds that this is not enough to promote the healthy or normal growth of the eye. He advises that in such cases glasses should be worn only for near work, and to place the child under conditions that will not require close application, and by exercise and amusements of country life develop their eyes and bodies in a healthy manner. He cites a case treated in this way in which the vision was greatly improved, and says he has a number of like cases recorded. These, however, furnish nothing more than negative

evidence as to the effect that convex glasses have upon the normal growth of the eye. No one questions the fact that the tendency of the times is toward the development of the mental to the neglect of the physical powers in children. The good results obtained in the cases referred to were due more to the gain in general health than to the lack of properly adjusted glasses.

There is one good to be gained by such treatment, the increase in the general physical condition may be attended by a corresponding increase of power of accommodation so that the patient may be able to overcome his hypermetropia without inconvenience and thus avoid altogether the use of glasses. Every ophthalmologist knows that errors of refraction are specially apt to become manifest when the general health is run down.

## Remote Effects of Otites.

In an article upon this subject given in the *Lon. Lan.*, Sir Dyce Duckworth reviews the anatomy of the ear, calling attention to the thin bony partition "which is not always perfect" that separates the middle ear from the cranial cavity. It has been truly said that there is "no other part of the human frame, which, in such a small space, borders upon so many important organs as the tympanum." Persons suffering from chronic suppuration of the middle ear literally, "carry their lives in their hands." So great is the danger to which such persons are exposed that no intelligent life-insurance company will accept the risk of such a proposer.

Among the grave complications that may rise from neglect of suppurating tympani, extention of the inflammatory process to the mastoid cells is perhaps the most frequent, but it is by no means the only one. Sir Duckworth in the article referred to reports somewhat in detail, five cases of general septic infection, three ending in death. The autopsies disclosed suppuring cavities in various organs of the body. The histories of the cases showed clearly that the suppurating ears were the points of infection.

These facts render it highly probable that many cases of death f om pneumonia, empyema, peritonitis, cerebral abscess, diarrhea, and other troubles, were primarily due to ears that have been left "running since I was a child." Heretofore due importance has not been attached to the necessity for interfernce in these cases. A good part of the laity, and not a few physicians still cling to the antiquated idea that it is dangerous to stop a discharge that has continued for many years. They hold that the system has become so accustomed to the drain that it demands that it be continued. "If you stop it there, it will break out elsewhere." They have not known that it is liable to "break out" elsewhere as in the cases reported by Sir Duckworth, simply because the discharge has not been stopped. Complications may cause the discharge to cease, but they cannot be cured by a re-establishment of the discharge. When complications arise the ear should be thoroughly cleansed to prevent further septic infection.

The profession should be aroused to the necessity for educating the laity to appreciate the importance of having every case of ear disease looked after.

## Treatment of Nevi.

Venous tumors are not always free from danger, as by accident they may be ruptured and alarming hemorrhage ensue. When located in fleshy portions of the body, Dr. Robert Abbe's favorite method of treating them is to heat an iron rod to a red heat and thrust it into the growth one or more times, according to the size of the tumor. This procedure, however, is not applicable in those cases in which the growth is located on the lip, nose or eye-lid. Here the greatest care should be exercised to sacrifice as little tissue as possible that the resulting cicatrix may not be more unsightly than the original nevus.

The practice of injecting solutions of perchloride of iron, alum, tannin into the substance of the growth is a dangerous one. Death has followed this procedure; ligature

is applicable only in a limited number of cases; the knife destroys too much tissue, and the same is true of caustics.

In the *London Lancet* Dr. S. W. Marshall gives the result of about ten year's experience with electrolysis. He says:

By its use we get: (1) an operation which gives no after-pain; (2) it is free from danger; (3) there is no bleeding; (4) the scar is white and does not tend to contraction in loose structures like the eyelids. In adopting this plan, it is necessary at first to recognize the fact that it is not usually expeditious in its action; this is its chief drawback. because parents are apt to clamor for some obvious effect to be produced, and are loth to wait with patience for the gradual fading of the nevus, by which we get our best results. Occasionally, nevi may be cured at one sitting without sloughing, and they may speedily diminish; but this is in my experience uncommon, and it is not wise to attempt to obtain so rapid an action, because the chances are against the effect being good. Stop the growth and be content to wait is the better method, re-attacking if development takes place or its subsidence is long delayed. I always use the positive pole with one or more needles, according to the size of the growth and its situation. The needle (or needles, as the case may be) is moved about systematically to attack the growth in various parts. This is done without withdrawing the needle after it has remained long enough in one spot to produce some effect. It is wiser at first to work well away from the surface of the tumor, espeeially in raised nevi which are very florid, to avoid risk of destroying the thin covering. The circuit is completed by attaching a rheophore to the negative pole; by this we avoid an unnecessary puncture, and I find that the process is equally effectual. I have not yet succeeded in finding a good means for insulating needles, and the scar left by the negative needles is brown and very disfiguring. I prefer to use the positive instead of the negative pole, because it is slower in its action and therefore less likely to lead to sloughing, and the bleeding on withdrawal of the needle is much less troublesome. The objection to the scar left by the negative needle has already been referred to. The number of cells used, I find in my notes varies somewhat, but my usual custom is to commence with five Leclanche cells and increase according to the effect produced. Ten cells are generally sufficient, but in deep subcutaneous nevi I have applied twenty cells. The amount of tension caused must be carefully gauged, cutaneous nevi being capable of standing very little. Change in color to a dusky hue is a good guide to judge when it is requisite to stop the current. I arrived at the conclusions detailed here by testing the number of cells and their effect on nevi on the trunk where scarring was of less importance. On withdrawal of the needle, all that is required is to rotate it before pulling to free it, and then paint the orifice with collodion.

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## Amputation Through Middle of Thigh. Escape of Cerebro-Spinal Fluid.

A remarkable case of this kind is reported by Dr. H. W. Drew in the *Brit. Med. Jour.* A man had one of his legs caught between the spokes of a wheel of a rapidly moving chaise; the leg was torn off above the knee. The peculiar feature of the accident was that the entire sciatic nerve and enough of the sacral plexus to open the spinal canal were removed with the avulsed limb. Amputation was performed through the middle third of the thigh. On the eighth day, something near thirty ounces of cerebro-spinal fluid escaped from the wound through the drainage tube. The following day it ceased, and the patient made a good recovery.

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## NEWS ITEMS.

Dr. Minor says in the *Lancet-Clinic* that every dozen bottles of patent medicines sold over the druggist's counter makes a patient for the doctor.

Dr. Chisolm, of Baltimore, says that dur-

ing the past year one hundred and thirty-eight cataract patients have been operated upon at the Presbyterian Eye and Ear Hospital, with the loss of but one single eye, which makes this very delicate operation nearly perfect.

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Dr. A. K. Bond, of Baltimore, says that when death occurs in phlegmasia alba dolens, it is generally due to the results of emboli washed from the veins of the leg. To avoid this he advises that the limb be kept absolutely free from either active or passive motion.

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The Post Graduate Medical College of Chicago, has a new journal devoted to its interests, *The North American Practitioner*, edited by Dr. Bayard Holmes and Dr. Junius C. Hoag, and published by Traux & Co.

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The *Denver Medical Times* says:

"Men who do not know enough to practice medicine in Germany are allowed to come over here and set up as qualified practitioners. But Americans cannot practice in Germany even if they be qualified before they leave here. Give us protection."

The necessity for protection against the introduction, into the medical ranks, of unqualified Americans is much greater than the protection that the *Times* calls for. What we need is to have State Boards of Examiners who will permit only those who have a thorough knowledge of medicine to practice.

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Dr. Lanphear says that Kansas City has the "lowest death-rate per thousand of any city in the world." In speaking of the physicians of the place, he says:

About one in a dozen of the earliest comers did really find a practice growing up around him, and a few of the doctors, therefore, are getting rich fast; but for the rest they come, stay a few months, or as long as their capital lasts, waiting for the practice that never comes, and then vanish.

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Dr. James B. Hunter says in reply to a letter from Practice, asking the question, Should a physician inform his patient of the malignant nature of his disease? So much depends on the patient that no rule can be laid down as applicable to all cases. Dr. John A. Wyeth says:

"In general I do not inform my patients of the malignant character of the disease affecting them until presumably within a few weeks of the end. The depression which follows such knowledge, in my opinion, not only hastens the fatal termination but carries with it unnecessary anxiety and great unhappiness. I hold that we are in duty bound to inform all patients of a possible crisis, and advise them to arrange all business or other affairs. The hopelessness of their condition without any intimation dawns on them in almost all cases of malignant disease some days before loss of consciousness."

As a matter of self protection, the physician should in every case possible take the precaution to inform the near relatives of the patient if he thinks it is advisable not to tell the patient of his condition. Many patients have been caused great and needless distress by being told by physicians that cataracts were forming and sooner or later they would be blind. It is well-known that many such patients die of old age retaining to the last sufficient vision for their needs.

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The *Denver Medical Times* gives an interesting case as follows:

A surgeon in Denver inserted a fine aspirating needle between the sixth and seventh ribs, in the axilary line, to explore what appeared to be an abscess. The patient was standing up, did not appear to be at all frightened and did not flinch perceptably, but before anything could be drawn through the needle, complained of a pain in the shoulder and became unconscious. The needle was then withdrawn and the patient placed in a recumbent posture. Opisthotonous came on and was relieved, but pulsation was very slow and irregular, and respiration labored. He did not revive but died in about an hour. At the autopsy it was found that a large abscess existed, lying on the right side, between the

liver and the diaphragm, which the puncture of the needle entered directly, without injury to any organ, and no hemorrhage either external or internal occurred. A careful examination of the brain, upper portion of the spinal cord and other organs revealed no assignable cause for sudden death except shock.

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Dr. R. M. King, an ex-member of the Press Association, has been elected Supreme Medical Examiner of the Legion of Honor of St. Louis. The honor is well-deserved by Dr. King, who stands among the first physicians of our city. The organization can rest secure in the belief that the duties of the office will be discharged impartially and in a manner that will best promote the interests of all concerned.

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A New Method of Illuminating Internal Organs.—The well-known experiment for showing total reflection of light in a jet of water or in a glass rod has been made use of here by Dr. Roth and Professor Reuss in devising a new method of illuminating from outside some cavities of the body, such as the larynx and nose. The instrument used for this purpose is a well-polished (not blackened) glass rod, to one end of which a small electric incandescent glow-lamp, like those used for electric breast-pins, is attached. The light of the lamp is reflected equally through the whole glass rod to its other end, which is placed on the skin of the throat in the case of a laryngoscopical examination being required. Then the interior of the larynx becomes illuminated sufficiently for laryngoscopy. If this luminous glass rod is applied to the sclerotic, the interior of the eyeball can be examined in the same way as by using an ophthalmoscope, the structure of the posterior parts of the vitreous body being very well seen and studied. As the glass rod remains cold, it can be employed in operative surgery to light the natural and artificial cavities.—*The Lancet.*

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The American Public Health Association has issued a circular expressing its indignation at the manner in which the *New York Herald* mutilated the Lomb Prize Essay entitled "Practical Sanitary and Economic Cooking for Persons of Moderate and Small Means" which had been awarded the five hundred dollar prize. The first exception taken by the Association is:

Instead of the legitimate heading which accompanied the type-written copy of the essay, the editor substituted one which, from a literary stand-point, would be discreditable to the cheapest and most isresponsible publication extant. It contained such expressions as,—"The Devel sends the Cook, but the *Herald* sends forth an Antidote," "Indigestion Knocked Out," "Girls, the Road to a Man's Heart is through his Stomach," "An Abel Efsay," "Miss Mary Hinman Abel took the Cake," etc. This execrable attempt at pun making needs no comment, and the fact that the author of the essay is the wife of an Americen physician now in Germany is a matter of public record.

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## SOCIETY PROCEEDINGS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, February 13, 1889. The President, W. W. Keen, M.D., in the chair.

Dr. Joseph Price read a paper on

### Gonorrheal Diseases of the Uuberine Appendages.

The attitude of numbers of profossional men who express either incredulity or absolute disbelief in the causative relation between gonorrheal disease in women and pyosalpinx and abscess of the ovary, is sufficient justification for a still further discussion of this subject. My views upon the matter are based neither upon theory nor upon microscopic examination. They are from surgical experience only or from confessions of men whose wives have been diseased by them. From the time that Noeggerath first formulized his belief upon this subject it has been smiled at, contradicted or controverted,

but never in its essentials disproven. In his earlier paper Noeggerath fell into the common error of enthusiasts, that of attributing too much to his discovery, and claiming too wide a pathological field as the sequelæ of this trouble. This, without doubt, led many otherwise fair-minded men to pass over his paper as unworthy of attention, thus impeding the progress that otherwise would have followed its discussion and the observations based upon its claims. In taking up most later surgical works we find the etiology of ovarian and tubal disease considered from this standpoint omitted—a missing link, or differentiated out of sight. This is wrong. As early as 1877 Mr. Lawson Tait and others insisted upon the relation existing between gonorrhea in man and tubal disease in women. Noeggerath antedated him about five years. Mr. Tait also insisted on its causative relation to perimetritis, this as late as 1883. Schroeder, in the early edition of his Gynecology, insisted upon this as bearing a causative relation to ovarian and tubal troubles. In the very lastest edition he says: "Gonorrhea, in the highest degree, appears as a causative disease in women." Sanger also is an ardent advocate of the same belief. He is wrong, however, I am persuaded, in holding that the gonorrheal infection is always late in revealing its presence in the woman when transmitted by the man. To this subject I shall refer later.

Without further collation of authorities upon this subject, I shall proceed briefly to its discussion. Whether or not the presence of the disease can be diagnosticated absolutely by the presence of gonococcus of Neisser, is of small importance, if by the chain of common evidence we can connect the presence of one disease with the other in their sequence. If, on discovering tubal disense in a woman who has never aborted nor had any of the diseases incident to childbed, who has been healthy up to a time, after which vaginitis has occurred, contracted from her husband, after which the woman from time to time experiences increasing pelvic pain, losing strength and weight—the case, it seems to me is made out, save as quibbling may dispute it. This history occurs in most of the cases I have handled. Of the many cases that have come under my observation, I choose the following as illustrative and typical:

A young married woman, one child. Her recovery from childbed excellent; no gonorrheal infection of the child at birth. Some months afterward she had inflammation of the vulvo-vaginal glands, with suppuration. Later she appeared with abdomen tense and painful, enlarged tubes and ovaries, tender and painful on the slightest movement or pressure; she had lost in weight and strength. Her husband confessed to the infection of his wife. The diagnosis was made of gonorrheal pyosalpinx, and operation proved the correctness of the opinion. Both tubes contained pus, were cheesy and friable—the ligatures cutting through all but the vessels. The abdomen was full of fluid, and the intestines gave evidence of acute peritonitis.

The history here is complete, leaving no possible doubt as to the origin of the disease. The early infection here exhibited is at variance with the views of Sanger and shows that his statements are not necessarily correct, or accidentally correct, if at all so. There is no sufficient reason why this infection should not be early. I incline to the belief that the disease originates early, but may be slow in its progress, and thus escape attention and discovery.

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## Discussion.

Dr. J. William White.—I had not intended to take part in the discussion, but as you have kindly asked me, Mr. President, I will say that neither the paper read this evening, nor anything else that I have heard or read, has convinced me of the frequent relation between tubal disease in the female and gonorrhea in the male. I believe that such cases as Dr. Price details are defective in some important point. They assert that the occurrence of suppurative disease of the tubes is a consequence of pre-existing disease in the husband, or of the individual with whom

the woman has had connection. It seems to me that by a similar process we could demonstrate the relation between gonorrhea in the male and mitral disease, cataract, or other ailment in the woman. This is another instance of the post hoc ergo propter hoc line of argument. It is carrying a theory, which has an undoubted basis in fact, to great extremes, and, as regards the view of Noeggerath, to ridiculous extremes. His sweeping assertions in regard to the persistence of latent gonorrhea in the male, and his theory that women having connection with men who had ever had gonorrhea, are constantly rendered barren, or if they do conceive do so only to abort, and that such women are the constant subjects of ovarian and tubal dis ease, are, I believe, contradicted by the experience of every surgeon and of every general practitioner. I have had rather exceptional opportunities for examining cases of gonorrhea in the male. Many of these cases have married, and the majority of them had, and still have healthy wives and healthy children. While there is undoubtedly some foundation of truth in regard to this matter, and while gonorrhea in the male may produce vaginitis, cervicitis, endocervicitis, and pyosalpinx, yet it seems to me that these occurrence are exceptional, by no means so frequent as is claimed, and certainly not the rule. Dr. Price does not assert his belief in these views, but I am surprised at the favorable tone of his comments upon them. I have always regarded the theories of Noeggerath as examples of the extremities to which an enthusiast may be led, and only to be fitly characterized by the somewhat strong terms of absurb and ridiculous. Certainly in my personal experience I have never seen anything to warrant a belief in the relation of these two conditions, as cause and effect, in any very large proportion of cases.

The pathological side of the subject, to which Dr. Price merely alludes, is after all, the one of greatest importance. If gonorrhea in the male is, as Noeggerath described it, latent in a majority of cases, it must be that it depends on a peculiar micro-organism, and the invariable association of the gonococcus, or some other low form of animal life, with gonorrhea, must be demonstrated. In this "latent" gonorrhea, described by him, there may be no symptoms, and nothing which would enable the practical specialist in venereal diseases to recognize the presence of the affection. There must then be demonstrated at least that some microbe is present which belongs to gonorrhea and produces the disease whenever it develops in the urethra. In order to demonstrate the relation between latent gonorrhea and these diseases of the tubes and ovaries, some such micro-organisms should also be found in these latter cases. I believe that in certain persons the nidus for the multiplation of the organisms is exceptionally favorable. In such cases it rapidly multiplies and tends to spread, and increases the severity of the disease. These are the cases, I doubt not, in which tubal disease follows infection. That it is frequent, or that there is demonstrated any invarible relation between the existence of the micro-organism and such diseases in the female, I do not believe has been proven. The clinical relation of the two conditions being, therefore, to my mind at least, not established; and the pathological evidence being entirely wanting, I am compelled to reject as unproven and unfounded the theories which so closely associate an antecedent gonorrhea in the male with so many forms of disease of the uterine appendages. I believe those theories to have been harmful in their influence upon gynecological practice in having given apparent justification to a large number of operations, a fair proportion of which, I do not doubt, will be shown within the next ten years to have brain unnecessary and injudicious.

Dr. William S. Stewart.—I am much interested in this subject, which is so much agitated at the present day. I am interested in the fact that so many tubes and ovaries are being removed. It seems to me an alarming thing that at the present time this should be the prevailing disease of women. I think therefore, that it is a matter of great impor

tance that we should come to some pathological determination as to the nature of the contagion of this disease, and whether its prevalence is due entirely to gonorrheal infection, or to other causes.

I have had some little experience recently in exploring the tubes. I was anxious that some of the specialists who make removal of the tubes and ovaries an every-day matter, should have witnessed the treatment of a case. I succeeded in passing an aluminium applicator through the diseased tube, and in permitting the escape of the pus which the tube contained, and the patient, who I feared was going to die, recovered. The diminution of the enlarged tube was a matter of great satisfaction to me, as I feared that my previous treatment of the case had been the cause of the development of the disease.

I have passed the probe into the tubes in two other instances, and the results which followed—diminution of the inflammation and liberating the pus—has been a matter of great gratification as well as surprise.

Dr. Hoffmann.—Dr. White's remarks show how two persons interested in the same subject may arrive at entirely opposite conclusions. Dr. White has had abundant experience in dealing with these cases, especially in the almshouse, in a class of people where he is supposed to see the relation between gonorrhea in the male and certain diseases of the female, especially in the uterine appendages. He, however, fails to connect the two in any marked degree. Bernutz has written a very remarkable work, appearing in the New Sydenham publications a few years ago, and the conclusions which he reaches are diametrically oyposed to those of Dr. White. Bernutz in examining 99 cases of pelvic peritonitis in women, concluded that 28 were distinctly attributable to gonorrhea; 43 were traced to childbirth, and 8 of the childbirths were abortions. If you take away the 43 cases, due probably to infection from some incidental cause, we have remaining 56 cases, of which 28, or 50 per cent were traced not only theoretically, but by a post-mortem examination, to gonorrhea, all other causes being eliminated. Taking his statistics of the 28 cases which he considered analogous to orchitis in the male, we have 20 menstrual and 8 traumatic. The causes of traumatism were, in 3, veneral excesses; 2, syphilis of the cervix; 2, the introduction of the sound; and 1, the use of the cold douche during menstruation.

I have myself seen this condition so frequently that I cannot regard it as an unusual accident, and all the less after reading the remarkable record of which I have here a note, can I think that it is accidental. So far as Noeggerath's views are concerned, I think that Dr. Price sounded their value. His views are extreme, and we may as well, now as ever, regard them as extreme. There is no use in laying down the principle that only one cause can produce the disease. The original paper of Bernutz, published in 1857, antedating the publication of Noeggerath,is to me convincing.

Whether or not we always find the gonococcus of Neisser is to me a question of indifference, and not always decisive. We know very well that one microbe will, by its presence, crowd out another. When we open the abdomen and find the tubes filled with stinking pus, in which putrefactive changes have taken place, I am not surprised that the gonococcus is not found, its place being taken by some other form of microccus. In such cases I do not believe that the gonococcus is diagnostic.

Dr. White.—The statistics of Bernutz and Goupil, to which reference has just been made are quite familiar to me, although it was my impression that they were published in 1861, not 1857. This is quite a different question from the one I was discussing. These were prostitutes of the lowest class undoubtedly infected with gonorrhea. The proportion of these cases in which pelvic peritonitis occurs is considerable. This is entirely distinct from the cases in which you depend upon the history of a previous and often a long distant gonorrhea in the husband, to explain ovarian and tubal disease in the woman, but in which you have no consecutive history of

true gonorrheal infection of the female. It is to this that I object, not to the assertion that pelvic peritonitis and pyosalpinx may occur in some cases of gonorrhea, particularly in women of the lower classes. Dr. Hoffmann has missed the point of my remarks. I have quoted the statistics of Bernutz in a paper which has been accepted by the *British Medical Journal*, although not yet published. They simply present the records of two of the French hospitals to which the lowest class of French prostitutes are admitted, women broken down in health, and the subjects of virulent forms of gonorrhea. This is entirely distinct from the proposition of Noeggerath, which connects not only existing disease in the male, but also precedent disease of which all active symptoms may have disappeared, with certain conditions of the female, barrenness, tendency to abortion, and disease of the uterus and appendages. It is to that I object, and not to the assertion that in a large proportion of cases these complications occur in prostitutes with well-marked gonorrheal infection.

Dr. M. Price.—In regard to the statement of Dr. White that these diseases are more peculiarly connected with these hospitals and these women of low character, I would say that all the cases that I have had in private practice, six or eight in number, have been not only of the better class, but among the best women of this town. The specimens from one of these cases I should like to show to the society. This pair of tubes is unquestionably gonorrheal. I treated the man some ten years ago. I afterwards treated his wife for old-fashioned cellulitis and peritonitis. She has had five attacks during the last eight years, in every one of which there was high temperature and quick pulse, with the pelvis filled with inflammatory masses. These inflammatory conditions were cured about as the electrician cures pelvic abscess and pyosalpinx. The health and vigor of the woman were sufficient to cause absorption of the liquid portion of the pus, and for a time the disease was kept in abeyance. Four or five days ago I removed from this woman's pelvis a pint of pus of the most offensive character. This was her last struggle, her last effort to get rid of it. She was unequal to the task, and was slowly dying of a septic condition. The symptoms were of such an urgent character, that I opened the abdomen and removed both tubes. There we have a marked case of pyosalpinx unquestionably of gonorrheal origin. Out of the eight or nine cases of pelvic trouble, I have had occasion to operate on, in all but one I could distinctly trace a gonorrheal origin. In every one I had treated the man for gonorrhea. From that day not one of these women bore a child. They always complained of symptoms of pelvic trouble, pain on pressure, pain on movement, and pain on slipping or jarring. The trouble in these cases was just as certainly gonorrheal in origin as that any trouble existed.

The cases that Dr. Hoffmann has referred to as occurring after labor, have, I believe, in many instances a positive gonorrheal origin. I recall one case of abortion where there was for a year previous unquestionable evidences of tubal trouble on one side. The abortion was followed by acute tubal inflammation, sepsis, and death. An attempt was made to relieve her, but it was too late. My impression is that a perfectly healthy woman, who has never been inoculated with gonorrheal poison, is very slow to take on pelvic inflammatory trouble. It probably does exist, but there is usually a poison which has produced the condition, which these other incidental incidents aid on and help.

Dr. White.—I should like to ask Dr. Price what symptoms of gonorrhea these women presented in addition to those which he has mentioned. To my mind, the argument, as I said before, seems to be entirely of the *post hoc ergo propter hoc* style, and it would apply just as well to a series of cases of goitre. It would not be difficult in a large number of these cases occurring in the best society, to demonstrate that ten years previously their husbands had gonorrhea, but it is evident that in both series of cases there would be a missing link in the chain of evidence.

Dr. Price.—A man comes to me stating that he is in trouble, and that he fears that his wife has been inoculated. I treat the husband for unquestioned gonorrhea. In the coarse of ten days or two weeks, I treat the wife for unquestioned gonorrhea. I think that is sufficient evidence as to the cause. I do not see any relevancy in the reference to goitre or heart disease. We know why these come in some instances. It is as plain to me as the nose on Dr. White's face that these conditions come from gonorrhea, and from no other cause.

Dr. James Collins.—I wish to ask one question. I have seen something of practice in my life, and I should like to hear something said with reference to the proportion of cases in which this trouble occurs. Taking the cases of gonorrhea in the male, I should like to know in what proportion of cases these sequelæ occur?

Dr. Hoffmann.—I do not wish to cross fire; but it seems to me that as Dr. White has suggested that I have missed the point of his remarks, I might say that he has missed the point of what I said. I do not absolutely accept Noeggerath's views, which I consider extreme. I do not believe that a man who has once had gonorrhea and has been completely cured, will necessarily transmit the disease. Dr. Price did not advocate that view. The only question is this: whether in the absence of any other proven cause, such as abortion, exposure to cold, the introduction of the sound, or the like, and gonorrheal infection proven, the disease may not be caused by the gonorrhea. I think that when that is proven by experience with low-grade prostitutes with the same anatomy and physiology as the high born ladies, we may apply our experience with the former to the latter. The whole thing is, therefore, narrowed down to this: whether or not we are justified by the exclusion of all other causes in saying that gonorrhea is the cause. This brings us to a rational consideration of the question, and not the extreme views suggested by Noeggerath. The trouble is that in considering these matters men are apt to go to extremes, and to say that one condition or another is the invariable cause of the disease. I have seen tubal disease come from all the causes enumerated by Bernutz. The treatment of the disease must of course modify the condition as propagated from one sex to the other.

Dr. J. M. Baldy.—The views of Noeggerath, Burnuty, Sinclair and others, including the author of the paper of to night, are very extreme, and grossly misrepresent the facts. Venereal disorders in man are not so frequently the cause of pelvic inflammatory diseases in women as these men would have us believe. I think with Dr. White, that in order to settle this question, we must have more than mere clinical evidence; we must also have pathological research and experimentation. So far as the clinical aspect of these cases is concerned, I may say that the vast majority of them coming under my observation are not women who have never been pregnant. There is almost always a history of abortion or labor, with septic trouble at that time. Sinclair has demonstrated that most of these patients have the gonococcus present in the secretions of the vagina and uterus, and for that reason he has considered the disease to be of specific origin; in some cases where the gonococcus was not found he still believed the disease to be of specific origin, supposing that the gonococcus had been crowded out by other forms of micrococci.

The question arises whether the gonococcus causes gonorrhea. I think that it has been positively settled by the experiments of Sternberg that the gonococcus is not the cause of gonorrhea, and that it may exist in other discharges. He made pure cultures of the gonococcus and inoculated the eyes of animals with negative results. The vaginæ of animals were inoculated with these cultures,with the same result. He then secured three hospital patients who were under observation in bed, and inoculated the urethras of these men with the pure culture of gonococcus. The results were absolutely negative. The only observations opposed to this are those of Bokard, made at Budapest. He submitted

urethras of a half a dozen medical students to experimentation. At the end of a week three of the students were found to have well-marked gonorrhea. At first sight these experiments seem as conclusive as Sternberg's; but when we recall the fact that these patients were medical students, and had a week's liberty before and after inoculation, in a city with the moral tone of Budapest, the experiment is absolutely worthless.

Sternberg found a micro-organism in urine which had undergone alkaline decomposition so like the gonococcus that the two could not be differentiated. He has also found it in the pus taken directly from a whitlow. I think that in view of these observations, we can consider that it is proven conclusively that the gonococcus is not the cause of gonorrhea, and therefore whether the gonococcus is present or not, it makes little difference; its presence is not proof that the condition is due to gonorrhea. In accepting this view we can plainly see that the conclusions drawn by Martin, Saenger, and other Germans, from the presence of gonococcus, are erroneous.

In regard to cases of chronic gonorrhea or gleet, where, following gonorrhea, there has been a stricture for years, with a little discharge, either mucus or pus, observed in the morning: such cases will no more cause gonorrhea than will the gonococcus. Up to the present time no experiments have been made on this subject. I am at present engaged in investigating this matter, but am not yet ready to give the final results, as my observations are not completed. I will, however, say this: I have taken the discharge from the cases that I have mentioned, and inoculated the eyes of rabbits, with entirely negative results. Not satisfied with taking these discharges, when the urethra was in a quiescent state, I have irritated the parts by the passage of sounds two sizes larger than the men had been accustomed to use, and the next morning inoculated the eyes of rabbits, but still with negative results. Then fearing the criticism that Sternberg did, that possibly animals were not susceptible to this infection, I secured a man and inoculated his urethra with this discharge, and so far with just as absolutely negative results. If we prove that these cases of gleet and chronic gonorrhea will not case gonorrhea, that the gonococcus will not cause gonorrhea, and that the gonococcus is found in other discharges as well, we come down simply to the acute cases of clap as the cause of the pelvic inflammatory diseases in women. This is exactly where we stand. That a man with acute gonorrhea will inoculate a woman is beyond peradventure true, and that the inflammation so set up will travel along the mucous membrane of the vagina, uterus, and Fallopian tubes, causing pelvic inflammatory trouble, is beyond cavil. That we can prove more more than this I think is impossible. Pathological research and experimental investigation are against it. There remains nothing but the clinical facts. And here again we have illustrated how two different minds will approach a subject from the same standpoint, and yet draw different conclusions. In many of these cases in which I have seen Dr. Price draw the conclusion that the trouble was due to gonorrhea, I could find no proof of that fact to satisfy my own mind. To me the history of gonorrhea was most eminently unsatisfactory, while the history of puerperal septic infection, which he chose to ignore altogether, was perfectly plain and clear. I think that in many of these cases of pelvic inflammatory trouble, the origin is of a septic character, puerperal, or from dirty instruments. I should say that three-fifths of the cases that have come under my observation, were of septic origin, and that one-fifth was of gonorrheal origin, leaving one-fifth for all the other causes.

Dr. George Strawbridge.—Are we to understand that the inoculation of mucous membranes with gonorrheal pus is negative?

Dr. Baldy.—No, sir. I refer to the discharge from gleet, where the discharge has been present for years. Such discharges produce no effect when inoculated.

Dr. Strawbridge.—Some of the worst cases of conjunctivitis that I have seen have been due to the inoculation from chronic gleet. In some of these cases the entire eye-

ball has been destroyed in the course of forty-eight hours. In these cases the acute attack has passed over one or two months before. I have seen dozens of such cases in my own practice. I am quite amazed that the gentleman could use this pus without trouble following.

Dr. White.—I think that Dr. Baldy and Dr. Strawbridge are talking about different conditions. I have never seen gonorrheal conjunctivitis from gleet. The cases seen by Dr. Strawbridge have been in the latter stages of acute gonorrhea. He speaks of one or two months. Gonorrhea will often retain its infective properties for that length of time. Gleets, depending as they commonly do, on strictures of large caliber, and on catarrhal conditions of the mucous membrane, are attended by discharges largely mucoid in character, only under exceptional circumstances mucopurulent, and are not contagious except in rare instances. A creamy or milky discharge is apt to be infectious, while a mucoid discharge is, as a rule, innocuous.

Dr. Arthur V. Meigs.—I wish to say a few words bearing upon the purely pathological side of the question. As yet I have only made a thorough examination of two specimens, and these were given me by Dr. Penrose. In neither was there what could properly be termed pyosalpinx. In one there was no trace of pus, but extensive inflammation and thickening of both tube and ovary, with adhesion of the tube to the ovary. In the other specimen there was a pocket of pus extending from the fimbriated extremity of the tube, its other attachment having broken in the removal. There was, however, no pus within the tube, but as in the other case thickening, inflammation, and adhesions. I think that it is still an open question whether or no nature could remove such a degree of inflammation as was present in the first specimen, though there is every reason to believe that nothing but operation could have removed the adhesions.

Dr. Price.—I am not surprised that Dr. Strawbridge is amazed at Dr. Baldy's remarks. At the present time we are in possession of sufficient clinical evidence to prove what Dr. Strawbridge has said in regard to the causal relation between gonorrhea and gonorrheal ophthalmia. Years ago Dr. Agnew said that he dreaded to see a case of chronic gleet of two weeks' or two years' standing come to his office; and it is just these cases that can destroy the eye. The records of eye hospitals abundantly prove this.

We now care nothing, or next to nothing, about which Noeggerath wrote, for we possess sufficient clinical material in our own surgical experience to prove that gonorrhea, and nothing but gonorrhea, is responsible, except in rare instances, for the pathological conditions with which we surgically daily deal. Dr. Deaver and Dr. White have proven this in their own daily experience by sections for pus tubes due to gonorrhea.

Dr. Baldy has alluded to my cases, but he heard only the history of the patient in front of him; but in every case I subsequently obtained the history of gonorrhea and stricture from the husband. The question of the influence of gonorrhea in the production of pelvic diseases in women is one not necessarily dogmatic nor mathematical, but involving probabilities. As to the influence of this disease in producing a serious train of sequelæ in the male, there seems to be no dispute; why there should be such a disparity between cause and effect, with only sex to influence the condition, is a question that I do not believe the sceptics will attempt to explain. I have certainly no explanation for gratuitous disposition.

In the class of patients met at the almshouse, among the males there is no question as to the great prevalence of gonorrhea. Among the females it exists about as often. In his description of a case in the *Med. and Surg. Reporter*, Dec. 15, 1888, Dr. White says: "Two small patches of ulceration existed on the floor of the membranous urethra, each measuring about two lines in diameter." This case may be taken as a type of the many cases of which no microscopical examination can be made, or at least is made.

Further on in this same paper a troublesome case of gleet is noticed, having existed for several years. That the presence of gleet is a real source of infection is no longer doubted. Why then dispute that an existing cause of trouble must stop short and lose its virulence as soon as it touches the female organs? Among the complications of gonorrhea in the male, noted and admitted by good authorities, are peritonitis, subperitoneal abscess, peri-nephritic abscess, together with the only too frequent lesions of the bladder, prostate and kidneys. Now, if peritonitis can occur with gonorrheal origin through the roundabout road of the vasæ differentes and seminal vesicles, how much more likely is it to occur in women by the direct route from the vagina, through the uterus and Fallopian tubes to the peritoneal cavity? Sinclair, in his little book, faulty and full of shortcomings as it is, proves without doubt that most of the cases of pelvic peritonitis attributed by him to gonorrhea are rightly so ascribed. Out of fourteen cases cited, in three the diagnosis is not proven and may be regarded as doubtful. It is the danger of every enthusiast to see too much in his theory. This was the cause of the slow reception of the theory advanced by Noeggerath. Noeggerath's view is not a new one; it is only the wide application that causes it to differ from opinions held long before. I can readily understand why the profession should be practically ignorant of the ravages of this disease. Nothing short of a rigid special training will enlighten the profession in this field. Again, it is additionally strange that in this age of boasted progress the profession should question the great prevalence of gonorrhea in the female, knowing it to be so very common in the male.

Many important investigations have been made by Bumm, Sanger and Oppenheimer. Donne, in 1844, discovered a parasite in the urethral discharges which he named trichomonas vaginalis. It is folly here to allude to the numerous small beasts that have been found in genital discharges—forerunners to Neisser's gonococcus. The latter presented his researches just at a time when the world was prepared to accept anything in the shape of a small beast. Clinically it is not necessary to determine the presence of the gonococcus to establish the infective virulence of gonorrheal pus, and this I believe is in accord with the many researches on the subject. Considering it from a pathological and surgical point of view, a clear history of recent impure sexual contact, in the presence of certain well-known clinical features, ignoring the presence or absence of gonococcus, will be accepted as sufficient evidence of the vice, and responsible for a large number of grave pelvic diseases, a much larger number than puerperal fever or syphilis are responsible for.

I think that I could easily prove my position by using the clinical evidence from my own college mates. I have taken pains to look them up, and investigated their histories that I might draw some conclusions in that way. I think that I can prove a causal relation in that way, having personal knowledge of their contamination.

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## BOOK REVIEWS.

Hunterian Lectures.—On Tension as met with in Surgical Practice.—Inflammation of Bone.—And on Cranial and Intracranial Injuries. Delivered before the Royal College of Surgeons of England, June, 1888. By Thomas Bryant, F.R.C.S., M.Ch. (Hon.) Roy. Univ. I., etc. London, T. & A. Churchill, 1888.

The first of these extremely interesting lectures relates to tension as met with in surgical practice, particularly of the soft parts. The author discusses this topic under the following headings: Symptoms of tension, the diagnosis of tension, tension from new growths, on tension the result of inflammation, the effects of tension in different tissues, treatment of tension. The conclusions of the author are:

1. Tension has a wide pervading influence in clinical surgery, and has a marked effect on the progress of disease.

2. Tension may be divided into inflammatory and non-inflammatory.

3. That it stands foremost among the causes of pain.

4. Where causes are not inflammatory, the tension to which they give rise will, if maintained, excite inflammation in the tissue affected.

5. Where the cause is inflammation the tendency of tension is to keep up or intensify the inflammatory action, and strongly to encourage the destructive changes.

6. That tension in every degree has a destructive tendency and the rapidity of the destructive process has a direct relation to the acuteness of the tension.

7. That, as in wounds the slightest degree of tension is injurious, so in their treatment, the use of the drainage tube or due provision for drainage, is a point of such primary importance as to relegate to a secondary position the mode and character of the dressing which is employed, since a want of attention to the efficient drainage of a wound under every form of dressing is followed by the same result.

Lecture II.—On the effects of tension, as illustrated in inflammation of bone and its treatment. Periostitis, ostitis, osteo myelitis, and endostitis are the divisions of the subject of this lecture. The obvious divisions are illustrated by numerous cases in point, and prove the value of early recognition of disease of bone and the early relief of tension either by drill or trephine as advocated by the author.

Lecture III.—On Cranial and Intercranial Injuries. The author emphasizes a point and which every surgeon should ever bear in mind, viz.: "that the effects of a force applied to the skull are much influenced by its thickness, and that in this matter there is in cranial bones great diversity"—injuries of the head should always be estimated primarily with reference to the amount of damage the cranial contents have sustained, and secondarily with reference to the risk of their becoming involved. This lecture is also amply illustrated by cases of various kinds of injury to the cranium. Space does not allow of a more extended review of these lectures by Mr. Bryant.

We can recommend them to every practical surgeon and student of surgery, as containing in very little space much that offers food for thought and it will well repay any one to carefully study and digest the thoughts therein expressed, for keeping the principles expounded in this little book constantly in view will be the means of alleviating much suffering as well as adding to the renown of the surgeon. A. H. M.

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Exploration of the Chest in Health and Disease. By Stephen Smith Burt, M. D. New York: D. Appleton & Co. 1889. pp. 206.

This book is helpful to the reader. It is plain, direct, concise and exact. It is evident that the author has made use of his own experience as well as drawing from the stock of books and teaching which has become so voluminous during the last few years.

This volume is not large, but in its 200 pp. is comprised more actual information regarding the science of physical diagnosis of diseases of the chest, than may be found in many a large library. The author insists upon a thorough knowledge of the physiological anatomy of the organs of the chest and their relative position in health, as the only true basis for a correct knowledge of any pathological change.

For this reason the first part of the book is taken up with the discussion of normal conditions and emphasized by conclusions and diagrams well worked out. The chapters upon the diagnosis of disease by the physical signs are very interesting.

There is somewhat of dogmatism in the author's style of writing but this is almost a necessity where so much thought has been compressed into so little space; besides a little dogmatism is not always objectionable.

The engravings are well executed and the publishers have not spared pains to make their part attractive. W. P.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES FOR 1888. Compiled and arranged by Dr. Charles E. Sajous and seventy associate Editors. Philadelphia: F. A. Davis.

The editing and publishing of so large an amount of medical literature as is found in the five volumes of the ANNUAL is a great undertaking. The task was resolutely undertaken and has been honestly completed so far as the past year is concerned.

Those will be disappointed who have expected that the Annual would save them the necessity of reading and extracting from current medical literature from week to week, by gathering up all that is important in progressive medicine and holding it for them in a vast reservoir. No work can be so comprehensive, no condensation can be so suited to each individual.

The purpose of the editor has evidently been to select and place in order such contributions from the records of the year as may seem to him to have been of positive value, and to give to the general practitioner, as well as to the specialist, the main features which have characterized the labors of the workers and writers of our profession for each twelve months.

Those who expect to find, not all, but the best of all, who look for a work of reference well arranged, for avenues of thought rather than a wild forest of good,bad and indifferent, will be pleased with what has been done by Dr. Sajous and his associates.

We will not attempt a close analysis of these volumes, because much of the literature which is contained therein has been mentioned in the REVIEW from time to time. Neither do we wish to be understood as pronouncing the work to be free from fault.

It would be impossible to accomplish the selection and editing of so much matter, embracing as it must do much that is new and comparatively experimental, without making some errors, both of omission and commission.

By the experience gained and acting upon the endorsement and suggestions of the profession, each year will probably show a better result than its predecessor. We have no hesitation in saying that the book is all that could be expected and that time and money have been freely and judiciously spent in accomplishing the issue of the first year's series. W. P.

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THE DIAGNOSIS AND TREATMENT OF DISEASES OF RECTUM. By Wm. Allingham, Fellow of the Royal College of Surgeons of England, and ex-member of the Council; Senior Surgeon to St. Mark's Hospital, etc. Edited and revised, with much additional new matter and numerous diagrams, by Herbert Wm. Allingham, Fellow of the Royal College of Surgeons of England; Surgeon to the Great Northern Central Hospital; Demonstrator of Anatomy at St. Georges's Hospital, etc. Fifth Edition. London: J. & A. Churchill, 11 New Burlington St. 1888.

The fifth edition of this work has been enlarged by the addition of several entire chapters. Amongst them may be mentioned those on Incontinence of Feces, Excision of Rectum, and Inguinal and Lumbar Colotomy, as especially interesting. A number of new diagrams have also been added which increases the value of the book considerably. It is hardly necessary for me to say that it is the same concise and practical book that has caused it to be so favorably known to the profession in all parts of the medical world. I think that the present edition will add much to its already well-earned popularity. It is such a work as the busy general practitioner needs,and that the surgeon will consult with pleasure because of the fair way in which each subject is treated. I. N. L.

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DR DRECKMANN, of Vienenburg, reports that he treated a case of lepra mutilans by "Unna's method"—painting with pyrogallic and chrysorobic acid salves, and salicylcreasote plaster-mull, and giving ichthyol internally. Most extraordinary improvemen followed, and eventually the patient became practically well.

# THE WEEKLY MEDICAL REVIEW.

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## REPORT ON PROGRESS.

### DISEASES OF CHILDREN.

BY I. N. LOVE. M. D.

I. MUMPS.—Jacobi, Feb. *Archives of Pediatrics.*

II. SIR MORELL MACKENZIE'S TREATMENT OF ACUTE TONSILLITIS.—*Edin. Med. Jour.*

III. A SPRAY OF HYDRONAPHTHOL, PAPAINE AND HYDROCHLORIC ACID IN DIPHTHERIA.—Dr. W. C. Caldwell, *Archives Pediatrics.*

IV. THE REMOVAL OF HYPERTROPHIED TONSILS IN CHILDREN.

V. INFANT FEEDING.—(CALATRAVENO.)

### MUMPS.

The recent prevalence of mumps has aroused attention to this apparently trivial disease and justifies the presentation of Jacobi's views which appear in the *Archives of Pediatrics* for February. He says:

"The incubation lasts a fortnight, and sometimes three weeks. Thus prevention by isolation can seldom be accomplished. The infection must be presumed to take place through the Stenonian duct. Thus a careful hygiene of the mouth must be considered the best preventive. Often the patients do not feel very sick. Many do not take to their beds. In many cases covering the swelling with cotton is sufficient to protect it. Where there is a great deal of pain narcotic applications may be made, or ice applied. The latter certainly reduces the amount of swelling, although it may not shorten the course of the disease. I have often found the application of iodoform collodion (one to eight or ten), made twice a day over the whole surface, quite successful. When there is a tendency to suppuration, warm applications will favor it. Then incisions must be made in time, be large and treated antiseptically. The diet must be that of all fevers—fluid. A consecutive anemia which is more frequent than the apparent mildness of the affection would seem to explain, requires generous feeding, iron, nux and a change of climate."

[I have observed quite a number of cases of mumps during the past year or two where the suffering was quite intense owing to the violence of the inflammation, and where suppuration seemed imminent, greatly relieved by a free application every three hours of the following ointment:

| | | |
|---|---|---|
| ℞ | Iodoform, - - | ʒj |
| | Morph. sulph., - | gr. v |
| | Unguent belladonnæ, | ℥j |
| | Lanolin, - - | ℥j |

M. Sig. Apply.

After applying the ointment the parts should be encased in oil silk, then covered with absorbent cotton and snugly bandaged with a flannel roller. By the way, what comfort and solace there is in the pronounced and gentle pressure and support of a properly applied bandage, no matter what the part may be that is involved in inflammation!]

### SIR MORELL MACKENZIE'S TREATMENT OF ACUTE AND CHRONIC TONSILLITIS.

In a clinical lecture recently delivered and published in the *Edin. Med. Jour.* for January, 1889, Dr. Mackenzie says: There are two forms of acute tonsillitis, the superficial and the deep. The first is not very serious, but is painful and apt to recur. This is true

of both forms of tonsillitis, but particularly so of the superficial. The interior of the follicles becomes inflamed and secretes an unhealthy mucous, and they never thoroughly recover. In all inflammations of mucous membranes the membrane does not really get well, though it may appear to do so. A celebrated French surgeon has said that he does not believe that a person ever really recovers after a gonorrhea. The same may be said of the follicles of the throat. A person who has once had acute tonsillitis never really gets well, though he may appear to do so. The treatment, therefore, is important.

The remedy recommended strongly by Ringer and a favorite with homeopaths has not, in my hands, proved to be of extraordinary value.

On the other hand I have found guiacuum, which used to be given in the form of ammoniated tincture, very efficient. I recollect a Manchester surgeon, Dr. Crompton, who used to come a good deal to the Throat Hospital about the time it was founded, telling me I should find much more benefit by giving it in the form of powder; and I did so, letting the patient take a pinch of the resin. This was rather disagreeable, and after a time I had it made into lozenges containing about three grains in each. In this form it makes an excellent remedy. Nine cases out of ten will get rapidly well if one of these lozenges is given every two hours at the outset. I sometimes also apply locally a little bismuth and opium, or an eighth of a grain of morphia with a quarter of a grain of starch, because the problem is not only to cure the patient, but to keep him comfortable till he is cured. Sometimes the guaiac causes a little diarrhea, which is not altogether disadvantageous, but the morphia is usually sufficient to check it. What I have said about guaiac applies to acute inflammations of any part of the back of the throat. Dr. Home has said of guaicum, "Instar specifici in hoc morbo operatur." It is really specific. I have used it for fully twenty years, and I assure you it is one of the best remedies you could have. It causes a slight stinging sensation, and this is an additional reason for using the morphia.

Occasionally this superficial or follicular tonsillitis if not checked passes into the deep or parenchymatous form, and the structure of the gland becomes very much affected. When the deep inflammation occurs you must bring it to an abscess as quickly as possible, and open it. Trousseau has pointed out that some inflammations begin in the deep part of the gland, and these you can't check, as a rule, though you may sometimes succeed with guaiac. I have done so in two cases lately. We are usually, however, called in too late. When you find you cannot stop the disease, give inhalations of benzoin, hop or conium, and apply poultices to the outside of the throat. Directly you can find fluctuation, make an opening. As the tonsillitis develops it prevents the patient opening his mouth, and there is some difficulty in getting at the abscess. This is the reason why surgeons sometimes have to let the abscess burst, but this should be avoided, if possible, because it has been followed by dangerous, and even fatal, hemorrhages. I generally use a curved and guarded bistoury, of which only the last quarter of an inch has a cutting edge, but an ordinary bistoury, the greater portion of the edge of which is covered with diachylon, may also be used. The incision is made with the cutting edge directed inward to the center of the mouth. You must never cut outward, for there is then the danger of wounding the carotid. I would recommend you to incise in cases in which you may not be quite certain of fluctuation. A slight puncture, even if pus is not evacuated, does no harm. The use of leeches was at one time common, but Louis, the French physician, proved that they did not cut short the disease by more than one day, and therefore their application was not desirable. Leeches have the effect of increasing the inflammation rather than otherwise if less than six are applied.

Chronic tonsillitis, or hypertrophy of the tonsils, proceeds from two causes. A large number of the cases are the result of a low

form of inflammation occurring in childhood. The structure in childhood is very prone to become inflamed. If the tonsils are considably enlarged, it is important to remove a portion of each. You should never speak of "cutting out the tonsils," as this sounds very alarming to the patient and his friends. Say that you mean to remove only "the diseased and enlarged portion." It is a consideration when you should do this. How much enlargement should there be before the operation is performed? First of all, the question of size is entirely relative. In a large throat the tonsils may grow to a considerable size, and the patient still do quite well. In a smaller throat this would not likely be the case. If the tonsils touch each other you can have no doubt as to the propriety of taking away a piece. If adult patients come to you with the tonsils slightly enlarged, it is an important question whether you should cut a portion or not. If the enlargement is associated with frequent attacks of acute inflammation, you ought then to cut away a piece. There is another condition which requires a similar proceeding. When the follicles of the tonsil are much enlarged, you can not cure it except by taking off a section, which may be not more than one eighth of an inch thick. You thus clear away the walls of the deep follicles and get a flat instead of a "worm-eaten" surface. As to the method of operating, many surgeons do it with a bistoury, and Sir William Ferguson, a great surgeon, for whom I had the greatest admiration, used to perform it in this way, but it was terrible to see the patient struggling with the mouth half full of blood before the operation was completed. Great surgeons will do all they can with a knife instead of what they call a "machine." I always perform the operation, however, with "a machine," a tonsillotome. The particular form I use is a modification of Physick's. The great advantage of this is that its mechanism is quite simple, and my modification enables the handle to be fixed on either side of the blade, so that the operation may always be performed with the right hand if the operator desires. As a general rule lightness of touch is the chief desideratum in operating, but in tonsillotomy it is the reverse. Heaviness of touch is the important thing. The tonsillotome must be pressed well over the tonsil, which is also to be projected into it by pressure with the left thumb placed under the angle of the jaw. I once had a colleague who could do very little else, but he took off tonsils marvellously, and as I watched him I observed that it was this heaviness of touch that made him so successful. If you don't attend to this you will not take off nearly so much as you desire. Patients have come to me a week or a fortnight after the performance of the operation by another surgeon, saying that the tonsil had been removed but had grown again! This of course means that enough was not removed at the operation. It is most important to take off enough. Hemorrhage from this operation is rare, but it has occurred and the carotid in some instances has had to be tied. I once had a serious hemorrhage to deal with some twenty-five years ago. The usual styptics and even the cautery failed to relieve. At last I tried a remedy which I have used ever since with perfect success. A chemist had informed me a short time before that a small quantity of gallic acid would prevent tannic acid dissolving. I mixed two parts of the tannic and one of the gallic in a little water, and gave the patient two teaspoonfuls, telling him to sip them slowly. The bleeding stopped almost at once. We have since used the same preparation at the Throat Hospital, and always with perfect success. The patient must be told to swallow the liquid, not gargle. Application with a brush will do no good. He should swallow the fluid slowly, as if it were difficult to get it down, and must on no account wash out his mouth or gargle.

[The treatment of acute tonsillitis by guiaccum is quite satisfactory but not to be compared to the liberal use of benzoate of soda. In a paper read to the St. Louis Medical Society in 1886, I favored the use of benzoate of soda as the ideal remedy for tonsillitis, basing the position which I assumed upon a clinical observation extending over two years.

Shortly after this report was made in a visit to the St. Louis Mullanphy Hospital I gave in detail my manner of use of this drug to Drs. Gregory and Boisliniere, Jr., who were in attendance upon the hospital.

Subsequently, Dr. Boisliniere, Jr., reported in the *St. Louis Courier of Medicine* the treatment of several hundred cases by this means with a much more favorable showing than by any other form of medication. This experience of Dr. B. corroborates the position taken in my paper and my own experience for three years past strengthens me in the conviction that the benzoate of sodium given in doses of ten to twenty grains with large quantities of water every hour or two according to age and condition is the most desirable and satisfactory treatment for acute tonsillitis. It acts as a prompt stimulator of the glandular system,seeming to have a preference for follicular glands,thus antagonizing inflammatory action.Recalling the fact demonstrated by Salkowski in 1879 that a solution of benzoate of sodium rendered a diphtheria membrane suspended therein completely inert within a short time, and other facts established by Potter, Brown and other observers favoring the idea of its being a valuable antiseptic and antipyretic we can readily see that it is of value not only as a reducer of the inflammatory feature of tonsillitis but also valuable in this disease in that it offsets and cancels the standing invitation given out by every case of tonsillitis to the virulent visitation of diphtheria infection.

In this connection I will say that I esteem this drug one of my sheet anchors in the treatment of diphtheria, scarlet fever, erysipelas and typhoid fever and in fact in all infections or septic diseases. I am repeatedly on record to this effect but I am more and more persuaded with each year's experience that theoretically and practically the benzoate of soda is almost a specific in diseases affecting the follicular glands.]

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### A Spray of Hydronaphthal, Papain and Hydrochloric Acid in Diphtheria.

Dr. W. C. Caldwell, of Chicago, presents a report in the *Archives of Pediatrics* upon the use of the above combination locally by means of a spray in diphtheria. He says:

1. It is probable that diphtheria, at first like wound and puerperal sepsis, is a local disease, and that the temperature is due to the absorption of leucomaines. It is probable that later the microbe of septicemia, and possibly the microbe of diphtheria, may enter the blood and produce a general disease, the temperature being due in part to the leucomaines produced by the microbes which are multiplying in the blood and lymph.

2. It is probable that the pseudo-membrane is over the site of local primary infection, and that in it and specially beneath in the lymph spaces of the submucous tissue are the invading bacteria of diphtheria.

Hence, if diphtheria is at first a local disease, and later may become a general disease, either a septicemia or diphtheremia; and if this local infection is accompanied by a pseudo-membrane which covers over the invading bacteria, the indications for treatment are the prompt, frequent and effective application of remedial agents which will,—

1st. Remove the pseudo-membrane, so that the bacteria can be reached; and,

2nd. Arrest the growth of the bacteria.

For convenience I prescribe these drugs in the same mixture; but it should be remembered that they must not neutralize each other's actions, or in any way be incompatible. An antiseptic and peptonizing agent might act powerfully when used separately, but might be inactive when in the same mixture. Pancreatin is an active peptonizer, but it can only be used with an antiseptic which can act in an alkaline menstruum; hence, it cannot be used with bichloride of mercury. I have not tried pepsin in combination with an antiseptic. Papain acts in an acid, neutral or alkaline menstrua, and hence it is more available for combination. Bichloride of mercury is a powerful antiseptic in neutral and acid menstrua, but it not only arrests the growth of the bacteria, but also, to a certain extent, the peptonizing ferment. At least it has this effect in artificial digestion; however,

I used it with papain in one case of diphtheria for twenty-four hours. The pseudo membrane was readily dissolved, and the temperature fell from 103° to 99° from 9 A. M. to 5 P. M. But there is another and far more serious objection to bichloride of mercury, and that is the danger of mercurial poisoning.

Hydronaphthal is also a powerful antiseptic which acts in either a neutral or acid menstrua, and, besides, is not poisonous. I have made no experiments on artificial digestion in the presence of hydronaphthal; however, when used with papain to spray the throat in diphtheria, the membrane rapidly dissolves.

The treatment of the seven cases which I shall report consisted of,—

1. Keeping the bowels open.

2. Ingestion of two to six ounces of milk every two hours. The papain probably greatly aids the digestien of the milk, for most of it is swallowed.

3. Spraying the throat every half-hour till temperature is reduced and breathing is easy; then every hour, unless asleep. In these cases, when the stray was used thoroughly, the temperature fell in from four to eight hours. It is probable that the temperature was due to leucomaines only, and that had the treatment been delayed till there was general infection the spraying would have had much less effect on it.

It is no easy matter to apply the spray properly,—that is, to the site of infection. It requires three persons to spray the throat effectively, especially when the larynx is involved. One person finally holds the child in a semiprone position; another depresses the posterior portion of the tongue, rendering accessible the structures involved, both by lowering the tongue and raising the larynx; and the third uses the hand atomizer rapidly for a few seconds. The child is then given a little rest, and this procedure is repeated several times.

The spray is almost worthless, even for diphtheria of the tonsils, unless the tongue is forcibly depressed, because the moment the spray strikes the palate and posterior portion of the tongue the reflex apparatus is stimulated and the anterior opening of the pharynx is closed. The child is bitterly opposed to such gagging treatment, and hence the whole procedure has to be done with more or less force, and to the loving mother it appears very brutal; but is better than a funeral. I have seen no untoward effects from this violent exertion of the child, but it is probable that, after the infection becomes general, there would be danger of heart-failure and also too great exhaustion of the other vital functions.

The following is the prescription for the spray I used on these seven cases:

℞ Papain, - - - ʒij.
Hydronaphthal, - gr. iij.
Acidi hydrochlorici, dil., gtt. xv.
Aq. destil., - - ad. ℥iv. M

The papain is not very soluble in water, hence sometimes it obstructs the atomizer; however, by shaking the bottle well before using, so as to suspend the undissolved papain, it can be used in an atomizer of moderate-size tubing with fair success. By adding four drams of glycerine to the mixture the solubility is greatly increased. Since I thought of adding the glycerine I have not had an opportunity to try it on a case. The manufacturers say that the papain in watery solution loses its strength; but I have noticed no loss in twelve hours.

[Dr. Caldwell then reports in detail the seven cases all of which were favorable except the last one which had been sick for one week before the doctor was summoned and suffocation was imminent from the presence of membrane in the larynx.

The history of the treatment of these seven cases (though only a limited number) suggests the probability in other cases,—

1. That usually those in charge of the patient will fail in effectively applying the spray.

2. That before there is general infection the temperature will rapidly fall with thorough use of the spray.]

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## The Removal of Tonsils in Children.

It is surprising how many physicians oppose removal of enlarged or hypertrophied tonsils in children for the reason that they think that they may "outgrow" them—that is the children may outgrow the tonsils.

It is true the hypertrophied mass may diminish as puberty approaches but when he recalls the discomforts and the injury to the general health, if the child be young the medical attendant will scarcely favor the policy of noninterference.

Such a decided obstruction to respiration and deglutition should not be tolerated.

The diseased masses by their presence excite catarrhal irritation of the territory around them, the child has to keep his mouth constantly open on account of the air not being able to enter through the obstructed naso-pharyngeal space. A bright child is often made to appear dull and stupid.

One of the strongest arguments in favor of promptest interference in the case of children living in cities is the fact that the spongy putrescent bodies are standing solicitors for septic germs to take up their abode. A child possessed of enlarged tonsils with the adjacent parts constantly irritated is quite susceptible to diphtheria.

## Infant Feeding.

Calatraveno: Alimentation for Children when Lactation is Defective. (*El. Prog. Gin. y Ped.*, October 10, 1888).

The author's paper was read before the Pediatric Section of the National Gynecological Congress recently held at Madrid, his conclusions being the following:

1. The alimentation of children during the first period of life is the greatest problem in pediatrics. According as the nutrition is good or bad do we obtain modifications of temperament and character, healthy and robust children or the opposite, and such as will be useful or otherwise to the community.

2. A bad alimentary regimen, and the abuse of milk and farinaceous foods, result in malnutrition and death, with the appearance of the various symptoms which have been designated under the term athrepsia by Parrot.

3. No means of alimentation should be substituted for mother's milk during the first period of life. Mothers owe this duty to themselves not less than to their children, that they should nurse them, if possible. Those who have nursed their children are less susceptible to uterine and ovarian troubles than those who have not.

4. It is the duty of the physician to decide, in the families in which he is an attendant, what women are capable of nursing their children, and what ones are incapable, on account of debility or disease.

5. The best substitute for the mother's breast is that of a wet-nurse residing in the home with the child. But the antecedents of the wet-nurse as to syphilis, alcoholism and scrofula must be clearly ascertained.

6. The nursing bottle should be used if mother's breast and wet nurse fail, but it must be used with the greatest care, absolute cleanliness and sweetness being indispensable, and only such mixtures should be used in it as will be entirely suitable and nutritious.

7. Asses' milk is most suitable if aminal milk must be used; goats' and cows' milk may be used if the former cannot be obtained, being properly diluted with farinaceous food of proper character during the first few months of their use.

8. The entire class of advertised foods for children during the early period of life is to be rejected, this being especially the case with condensed milk.

[The above like many other aphorismal conclusions regarding both diet and medication is too sweeping. Each infant's stomach is a law unto itself.

Take the third proposition for instance. There are many cases where it is undesirable for the mother to nurse the infant.

So also the fifth. There are many cases of anxious, jealous, invalid mothers where the wet nurse is an unmitigated nuisance even

though her milk be good—her elimination from the household often becomes necessary and artificial food is, all things cousidered, to be preferred.

The last proposition is especially objectionable. Many of the commercial foods tide over periods of danger in the first year of life and are invaluable to us.

For temporary use condensed milk is often of great value. I do not think it should ever be used as a permanent or long continued food.]

## ORIGINAL ARTICLES.

### ABSTRACTS FROM THE REPORT ON THE CAUSES AND PREVENTION OF BLINDNESS. PRESENTED AT THE LAST MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

BY DR. LUCIEN HOWE, CHAIRMAN.

"Concerning the increase of blindness in the United States as a whole it will be seen when we compare the report of the United States census of 1870 with the report of 1880 we find the population of the United States in 1870 was 38,558,371, and the number of blind then was 20,320.

| | |
|---|---|
| Population, 1880 | 50,155,783 |
| Number of Blind, 1880 | 48,929 |

In other words while the population had increased 30.09 per cent, the number of blind had increased 140.78 per cent.

Again if the United States be divided into three equal parts according to latitude, the first or southerly range of states, including those which lie below the 35th parallel; the second range between the 35th and 40th; and the third above that, we find that there is a constant increase in the ratio as we pass from the north toward the south. Thus we have in the

| | | PER. |
|---|---|---|
| Northerly range of states | 7.09 | 10,000 |
| Middle range of states | 9.42 | 10,000 |
| Southern states | 10.81 | 10,000 |

There is another classification of the states, which is also of some interest. If they be divided according to longitude into three groups, each of which includes about fifteen degrees, we find the proportion of blindness decreased as we go from east to west. According to division the first group of states would lie between the Atlantic Ocean and the Mississippi River, extending to about the 15th degree of longitude west from Washington: The second would be from the Mississippi to the Rocky Mountains, or from the 15th to the 30th degree, while the third would include the strip from the Rocky Mountains to the Pacific Ocean, or from the 30th degree of longtude west. Here we find:

| | | PER. |
|---|---|---|
| In the easterly range of states | 10.34 | 10,000 |
| In the middle range of states | 7.90 | 10,000 |
| In the western range of states | 5,68 | 10,000 |

So much for the statistics relating to the United States as to the number of blind, their increase throughout the country as a whole, and their distribution in different parts of it.

Let us next consider the statistics which are available, relating to New York alone.

| | |
|---|---|
| Population, New York State, 1870 | 4,382,759 |
| " " " " 1880 | 5,082,871 |

Being an increase of 15.9 per cent.

| | |
|---|---|
| Number of blind, New York State, 1870 | 2,213 |
| " " " " " " 1880 | 4,981 |

Being an increase of 125.07 per cent.

In a similar manner if we compare the state census of 1875 with the United States census of 1880 we find:

| | |
|---|---|
| Population, 1875 | 4,698,958 |
| " 1880 | 5,082,871 |

Being an increase of 8.1 per cent.

| | |
|---|---|
| Number of blind, 1875 | 2,256 |
| " " " 1880 | 4,981 |

Being an increase of 111.03 per cent.

In other words the official reports show that during the ten years preceding 1880, blindness in the state of New York increased 8.2 times as rapidily as did the population, and during the last five years of that decade it increased 13.7 times as rapidly.

In view of these rather startling assertions in regard to the increase of blindness, it is natural that one should question the correctness of the data which lead to any such conclusions, in other words, to suspect that the apparently rapid increase was due to the difference in the manner in which the statistics were collected in 1870 as compared with

1880. In the compendium the tenth census it is stated by Mr. Wines who has charge of that department that the plan was essentially the same, but in order to satisfy ourselves more thoroughly, a letter was addressed to the Secretary of the Interior, asking for any additional facts in regard to this point, but I was informed that the same outline was followed in one case as in the other, and in general the same course was persued, simply a special blank for the blind being filled out in 1880, like the one here presented, entitled scedule four. Of course, these examinations were by no means as accurate as would be desired from the ophthalmological point of view, for the numerators were often ignorant and careless men, but the fact remains that the errors were probably almost as great in 1870 as in 1880. More over,in order to verify the accuracy of some of the figures given in the last census I made application for the returns regarding the City of Buffalo, and while a number of changes of residence were made and it was difficult to verify the reports in detail, still the information obtained, as far as it went, showed that at least that part of the report was quite as reliable as could be expected. So much for the statistical facts as to increase. Next let us consider causes which tend to make this apparent increase of blindness. In doing so, it is natural that we inquire first of all what were the causes which have produced that condition among those who are already blind. To determine that it seemed advisable to undertake the examination of a considerable number of these unfortunates, and, of course,that could be done most conveniently, in asylums and almshouses,where they were collected together. Accordingly, a list of questions was prepared, being mainly a copy of that which was used by Hugo Magnus.

The report then exemplifies the manner in which the statistics concerning the cause of blindness in New York were obtained. From examinations made by physicians to the various county almshouses, from examinations of the immates of the New York institution for blind at Batavia, giving in all a total of 398 cases accurately examined. The conclusion reached was that by far the largest proportion of blindness was due to some form of contagious disease. Among those of early life, such as are found at the blind asylum, more than one-fifth of the cases are caused by ophthalmia neonatorum. Granular conjunctivitis comes next in the list, which, together with corneal ulcers, primary or secondary, to this and other conjunctival diseases, causes over fifty five per cent of all the cases. The committee also dwell at considerable length upon the influence which immigration has upon the increase and spread of contagious diseases of the eye. A considerable number of facts were presented illustrating this phase of the subject. An estimate is also made as to the cost of blindness to the United States, and to that particular state, by counting not only the actual amount expended in support of the blind, but also adding the minimum which each man and woman might have earned if they had been able to work, each man's wages being counted at a dollar and twenty cents, and each woman's at forty cents a day for each working day, and this counting not one among them all could become skilled artisans. This amount at the minimum estimate was over a million and a half dollars for the state of New York in the year 1880; for the United States during the same year the cost was $16,383,262,and if anything like the same increase continues it amount in 1888 to considerably over 25,000,000 dollars.

The report further says if these statements are of as much importance as they would appear it behooves us at least to inquire what steps could be taken for lessening the increase of blindness. It therefore seems advisable to the committee·

First: To popularize with the profession and laity the necessity of some care as to the proper cleansing of the eyes of infants immediately after birth, to impress the importance of this matter upon nurses, hospital attendants and others; and if possible to teach them to apply to every infants eyes a suitable solution of nitrate of silver which need never be

stronger than two per cent and this in minimum quantity.

Second: Enactments should be encouraged similar to that recently passed by the New York Legislature in regard to the proper isolation and quarantining of children with suspicious diseases of the eyes in all residental schools, and in large institutions in which children are brought together. Moreover, similar rules with proper modifications should be adopted in prisons, reformatories, and other institutions for adults. Especially does this hold good concerning soldiers in barracks or sailors on ship board.

Third: By educating the public. The laity should be cautioned as to the contagious character, not only of the so-called granular lids, but especially of those seven forms of inflammation of the eye which result from inoculating it with contagious matter. This might be accomplished by posting notices in proper places, officially signed by the board of health or other public officers; other proper notices posted in stone quarries, machine shops, etc., would tend to lessen the proportion of accidents to eyes, so frequent in these places.

Fourth: That steps be taken to prevent the introduction into this conntry by immigration of cases of contagious diseases of the eye.

Fifth: That renewed efforts be made by the profession to collect data relating to bacteria affecting the eye, especially to the action of the gonococcus, the so called trachoma coccus of Michel, and other forms of microbes of either the normal or diseased conjunctiva.

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An Annonymous correspondent to a Chicago newspaper is quoted by the *National Druggist* as saying that the practice "among physicians of carrying their own drugs is becoming quite common in the City by the Lake, and states, as an evidence of this, that one firm there which five years ago was not in existence, now do a business exclusively with physicians amounting to hundreds of thousands of dollars a year.

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SATURDAY, MARCH 2, 1889.

## The Island of Lepers.

The editor of the *Brit. Med. Jour.* gives a review of the present status of affairs in the Hawaiian Isles in regard to the practically incurable disease, leprosy. The island of Molokai is indeed a leper settlement. The population numbered on April 1st, 1888, nine hundred and forty-two, and of this number seven hundred and forty-nine were lepers. Of these four hundred and ninety-two were males and two hundred and fifty-seven were females. Of sixty-six persons, who, when they entered the settlement were presumably not lepers, twenty-three had contracted the disease and eleven others were declared by the medical examiners to be "suspected lepers." There are now something near fourteen hundred lepers in the Hawaiian Islands. An effort is being made on the part of the paternal government to consign all lepers to Molokia,a Board of Health having this special work in hand. But with strange inconsistency; "marriages between leprous and nonleprous individuals are freely contracted and the most reprehensible intimacies are not prevented by patent evidences of the disease.

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## Diseases of the Eye, Ear, Throat and Nose.

This is the title of a paper by Dr. Cheatham, of Louisville, (*Amer. Prac. and News*), in which he gives a summary of his private practice during the past two years. He says: "Of acute catarrh of the middle ear, and

acute suppuration of the middle ear, I saw during the two years but forty-four cases; of chronic catarrh and chronic suppuration of the middle ear I saw in the same length of time, three hundred and sixty-nine cases." These are significant figures. Dr. Cheatham appeals to the family practitioner to refer his cases of acute inflammation of the middle ear to the aurist.

In the last number of the REVIEW I took occasion to impress upon its readers the importance of educating the laity to have chronic suppurating ears treated.

Dr. Cheatham found that, in acute inflammation of the tonsils, hot applications both internal and external, with the salicylates and turpentine gave the best results. In diphtheria he applies locally, hydrarg. bichlor. one grain or less to one ounce of muriate tincture of iron. He called attention to the fact that many diseases of the eye are an index to some of the most obstinate constitutional diseases. He has a record of twenty-seven cases in which involvement of the muscles of the eye was the first symptom of beginning locomotor ataxia. Muscular insufficiencies were a common cause of headache and vertigo. His routine treatment for ophthalmic neonatorum is, cleanliness by means of carbolized hot water and surgical cotton, glycrole of tannin to clean out the cul-de-sacs and nitrate of silver followed by salt-water, and a weak solution of atropia. "It all amounts to nothing without cleanliness."

## A CASE OF MENINGOCELE.

Dr. Charles Baum reports a case in the *Med. and Surg. Reporter*, in which a newborn child had an elastic prominent tumor which arose from the posterior foutanelle and extended along the sagital and a portion of the lambdoidal suture. Light was readily transmitted through the swelling which measured, over the center, five and a quarter inches from before backward and four and three-quarters laterally. Pressure on the tumor caused the child to become drowsy. Dr. Baum says:

To satify the demands of the parents, as well as to try the experiment, one gramme of potassium iodide dissolved in compound syrup of sarsaparilla and water was administered internally three times each day, and this was continued until the swelling was absorbed; locally, an application of ammonium chloride gr. xv, alcohol f℥j, was ordered to be made every six hours, but as was learned later, the parents made it every three hours.

By degrees the swelling disappeared, and on November 27, 1888, the bones were united along the suture lines, there being however a general prominence which has remained over the region involved. In the latter part of January the child was four months of age and was large, fat, solid, bright, laughing and playful.

## THE FORCEPS AS A CAUSE OF IDIOCY.

The *London Lancet* gives a short account of the investigations of Dr. Winkler and Bollaan as to the effect of forceps upon the brain substance. They held a number of autopsies on idiots,in one of which they found marks of the forceps on both sides of the head corresponding almost exactly to the damage done to the brain. Of ten idiots examined after death and twenty-five living, six had bilateral depressions in the skull. Dr. Winkler and Ballaan believe that depressions of the skull caused by forceps even when no fracture occurs tend to damage the cortical substance of the brain, and that this leads to general atrophy of the hemispheres thus producing idiocy.

The exact degree of pressure that should be made with the forceps must be left to the judgment of the physician. It is a much easier matter to graduate the pressure before making traction than while traction is being made; for this reason a set screw in the handle is of great service to those who are not thoroughly skilled in the use of forceps. The base of the cranial cavity has been fractured in instrumental delivery. The investigations mentioned will assuredly do good in calling the attention of the profession to a possible

danger that has heretofore received too little attention.

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### Opening the Sheath of the Optic Nerve for the Relief of Pressure.

In 1872 DeWecker, of Paris, proposed to the International Ophthalmological Congress the operation of incising the optic sheath to relieve tension in cases of optic neuritis. He had a neurotome specially constructed for this purpose. He operated upon several cases but the good effect upon the eyes seems to have been very slight though there was a marked calming effect on the patient observed. This was probably due to escape of cerebro-spinal fluid through the incision.

Mr. R. Brudenell Carter has performed the operation four times, (*Brit. Med. Jour.*) and the results which he reports are certainly very encouraging. In one case of double optic neuritis, the vision in the right eye was $^{20}/_{50}$ while in the left eye perception of light was lost. The sheath of nerve of the blind eye, was incised, and in a few days the vision of the right eye was raised to $^{20}/_{40}$ and the patient was soon after discharged from the hospital. The result in this was considered negative, though the improvement in the good eye may have been in a measure due to the operation.

Another patient had no perception of light in the right eye and barely counted fingers at six inches with the left. The sheath of the left optic nerve was incised from its insertion into the sclerotic to near the apex of the orbit.

The operation was performed on June 14 and on Aug. 4, 1888, the following report was given:

"Tested at a distance, the left eye is always right at ten feet with letters of 200, and generally with letters of 100. It can spell out the letters of large primer (No. 16 of Pickard and Curry's tables) at four inches. The right eye has regained perception of light, so that it can count the windows on the opposite side of the ward, and can tell when fingers or any light-colored objects are moved in front of it at a distance of six inches. The ocular movements are perfect, the right pupil reacts slightly to light, the left one fairly well." I may add to this that the patient easily recognizes people who come into the ward, and that she has been able to write letters to her friends.

The diagnosis in this case was cerebellar tumor, the symptoms of which have varied in intensity from time to time, and on Feb. 19, 1889, were very severe, but she retained her vision, though her optic discs are very pale.

In a third case the patient was seized with intense frontal headache and two days afterward her sight began to fail and three days later she was quite blind. On the twelfth day discs were white and swollen, and there was absolutely no perception of light in either eye. At this time the sheath of the left optic nerve was incised. Improvement followed in two days and in ten days she could see her way comfortably about the ward. She was soon afterward discharged and "she has continued well and with good sight ever since."

In all the cases reported the head symptoms have been markedly ameliorated. The most promising feature of Mr. Carter's cases is the short time between the operations and the manifest improvement. Ordinarily the swelling of the optic disc subsides very slowly. The operation is well worthy of a trial.

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A Paris correspondent to the *N. Y. Med. Jour.* writes that at a recent meeting of the *Society de Chirurgie* nearly every one present agreed with Professor Trelet that pessaries were not only useless but dangerous.

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Dr. D. B. St. John Roosa's work on Diseases of the Ear has been translated into German and published in Berlin.

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Dr. John C. Dalton, the eminent physiologist is dead.

## SOCIETY PROCEEDINGS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, February 13, 1889. The President, W. W. Keen, M.D., in the chair.

(CONTINUED.)

The President, Dr. W. W. Keen, exhibited

HOLDEN'S LARYNGEAL DIVULSOR.

Also

WILSON'S CYSTOMETER.

The president then read a preliminary report on a case of

TAPPING AND IRRIGATION OF THE VENTRICLES.

Last fall I made a proposition for tapping the lateral ventricles. At that time I was not aware that the procedure had ever before been suggested, but I have recently learned that in 1881 Wernicke suggested it in a general way, and by the lateral route. I, however, first formulated definite rules, which have stood the test of actual trial. The operation, I believe, was never performed until I did it in a case of marked choked disk on both sides, with complete blindness dating from last Christmas, which I had the opportunity of seeing through the politeness of Dr. Strawbridge. I tapped the ventricle five weeks ago last Friday, reaching it by the lateral route, at a depth of one and three-fourth inches from the dura mater. A half inch trephine opening was made, a crucial incision in the scalp and dura being employed, as I intended to keep up drainage. From two to four ounces of cerebro spinal fluid escape from this opening daily.

The case was examined from day to day to see the effect on the swelling of the optic disks. Before the operation this amounted in one eye to 2.3 mm., and in the other to 1.8 mm. After the operation, it eventually fell to 0.83 mm. on each side. At the end of a week the horse-hair drain, which was introduced at the time of the operation, was substituted by a rubber-drainage tube passing into the ventricle. The discharge then became freer, amounting to four to eight ounces per diem.

In addition to this, I explored with a probe the occipital lobe on the left side, twice to a depth of three and a half inches, but found no tumor. I then made a small opening by a gouge under the cerebellum on the left side, and explored the left lobe, and then passed obliquely into the right side, but no tumor was found.

Last Friday I trephined the child on the opposite side, thinking that there might be a tumor in the posterior lobe on that side, but I found none, though I touched the tentorium and the flalx. I then tapped the lateral ventricle on that side. Yesterday I washed out the lateral ventricles, passing about eight ounces of a solution of boracic acid (four grains to the ounce) from one side to the other. There was some little irritation resulting from the manipulations, but the moment the warm solution began to pass through the ventricles the child settled itself into a position of complete comfort.

I will pass around a bottle of the cerebro-spinal fluid, which has been standing on my desk for a week. There are no signs of decomposition. The fluid contains both sugar and albumin. This, with its continuous flow, proves it to be cerebro-spinal fluid.

The child did not suffer any notable rise of temperature after any of the operations, with the exception of the last one. Then there was a temporary sharp rise to 104°.

Dr. Geo. Strawbridge.—I was present at two of these operations, and I came away feeling that you could do anything you liked with the brain. The probe was passed through the brain in different directions without any effect on the pulse or respiration.

Dr. J. Chester Morris.—It is certainly very interesting that this child should have lived and improved after this operation. It certainly looks as though it were opening the way for the successful treatment of this unpromising class of cases. We have been very much afraid to interfere with the brain. I have had the honor of reporting to the Col-

lege of Physicians a case of extensive injury to the brain with recovery. The case occurred during my father's term as resident at the Pennsylvania Hospital. There was a compound fracture, with the escape of a large amount of brain matter from the top of the skull, and of bloody matter and bone from the ear and nose. The diagnosis was fracture at the base of the skull as well as at the top. A large fragment of the parietal and frontal bones was removed at the time of the injury. The man recovered and lived for thirty-six years, but for twenty-five years he had been an inmate of the Trenton Lunatic Asylum. The head was placed at my disposal, and an examination of it verified the diagnosis made at the time of the injury. The skull is now on deposit in the museum of the College. It is also remarkable from the presence of double mammary processes.

I was also interested in the celebrated case in which a crowbar was driven through the brain, as the accident occurred at the mines in Vermont where my father-in-law was engaged as superintendent. Dr. Jeffries Wyman, the surgeon who treated the case, told me that he thought the man had better sense after the accident than before. The skull and crowbar are both now on deposit in the museum of the medical college at Boston.

In another case of extensive fracture, occurring at the Pennsylvania Hospital, in the practice of Dr. Neil, the skull was trephined and the fragments raised. The man then returned to his senses. Dr. Neil then passed his finger inside the skull and said: "You see, gentlemen, the brain is devoid of ordinary sensibility. The man feels no pain." "Och, be jabbers," the patient exclaimed, "let me have my hand in your brain and I will tell you whether I feel any pain or not."

Dr. Wm. S. Stewart.—A man shot his wife in the skull, but the ball did not pass all the way through. In my absence, another physician was sent for. When I arrived I found him probing for the ball. I asked him whether he thought he could remove the ball if he found it. He admitted that he could not; and I then suggested that he let the patient alone, and give her a chance of recovering. The patient was placed in bed with the opening downward to facilitate drainage; and she eventually recovered and lived for years without any apparent effect resulting.

Dr. R. Bruce Burns.—Five years ago I was called to see a boy who had been struck on the head by a shutter falling from a third-story window, crushing in nearly one-fourth of the side of the head. There was a comminuted fracture, but not compound. I made a crucial incision, removing the fragments. Some of the fragments had been driven through the dura mater, and their removal was followed by the escape of the brain substance. The boy made a good recovery, and is now living with unimpaired intellect.

A short time ago I was called to see a gentleman with an enormous osteo-sarcoma involving a portion of the parietal and frontal bones. The size of the tumor was equal to my two fists. On attempting to remove the tumor, I found that the skull had been absorbed in the growth of the tumor, and that the mass was attached to the dura mater. The opening left was fully two and one-half inches in diameter. The man is doing well.

I was also associated in a case operated on by Dr. Mears. A boy suffered with unilateral convulsions. His intellect became impaired, and he became maniacal. It was decided to take away a portion of the convolution in the neighborhood of the fissure of Rolando. The boy has recovered, so far as the epilepsy is concerned, but not as regards the intellect.

In another case, occurring in the practice of my father, a man shot himself in the forehead. The man was removed to the Episcopal Hospital, where Dr. Packard became much interested in him. He was subsequently removed to Kirkbride's. At the post-mortem it was found that the ball had cut a direct tract through the cerebrum to the left side of the brain. There was a case, which if cerebral surgery had reached its present state of perfection, could have been subjected to operation with the possibility of restoring intellect and saving life.

Dr. Keen.—I can hardly let pass, without a protest, the stand taken by Dr. Stewart with reference to balls imbedded in the brain. Statistics unquestionably prove that where the missile is not removed the mortality is vastly greater than where it is removed. I think that no surgeon does his duty unless he attempts to locate and remove the ball. This can be done with Fluhrer's gravity aluminium probe and the forceps which he has suggested.

Dr. Wm. Stewart.—The case to which I referred occurred twenty years ago. The ball could not have been removed at that time. I did not mean to give that plan of treatment my indorsement at the present time, but simply as an illustration of the abuse to which the brain of one individual was subjected without destroying life or producing permanent injury.

Dr. W. S. Forbes exhibited

A SAW FOR THE OPENING OF THE SPINAL CORD.

Also

HEMOSTATIC FORCEPS,

with a large beak to facilitate the application of the ligature where that may be necessary.

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## SELECTIONS.

### THE PREVENTION OF PEURPERAL FEVER.

BY W. W. JAGGARD, M. D.,

Professor of Obstetrics, Chicago Medical College; Obstetrician to Mercy Hospital.

Read before the Chicago Medical Society, February 4, 1889.

The crowning glory of Semmelweiss' theory of puerperal fever, as aptly remarked by Kucher (Puerperal Convalescence and the Diseases of the Puerperal Period, p. 234. J. H. Vail & Co., New York, 1886) is the chapter on prevention. In the fifteen minutes allotted to this topic by the directors of the present discussion, it is possible only to give the briefest outlines of the subject.

The principles upon which the prevention of puerperal fever depends are few and very simple. As summarized by Crede (Gesunde und kranke Woechnerinnen. Leipzig, 1886, p. 79) there are only two. They are: 1. Prevent, as far as possible, lesions of the genital tract. 2. Prevent the infection of the lesions that are inevitable.

Let us discuss each of these principles in detail.

1. Prevent, as far as possible, lesions of the genital tract. In every labor, no matter how ideally physiological it may be, there is always some solution of the continuity of the tissues that constitute the genital tract. What is the extent of the necessary puerperal wound? 1. The entire area of the endometrium that contributes to the formation of the decidua, inclusive of the placental site, must be regarded as a wound surface after labor. With commencement of labor, the ovum is forced downward toward, and into the cervix, so that the mucous membrane begins to be deprived of its epithelium, as deeply as Friedlander's glandular stratum. In the commencement of labor, during labor, and during the early days of the lying-in period, until a new mucosa is formed, the intra-uterine expanse is easily accessible to the finger and to the air, and infection is liable to occur at any moment.

2. The neck of the uterus, particularly the os externum, is commonly torn to a greater or less degree, even in physiological labors. The epithelium lining the cervical canal and covering the vaginal portion is always rubbed off to a variable extent by the passage of the fetus, even in the absence of operative procedure.

3. The vaginal mucosa is apt to be denuded in some degree of its epithelium, by the friction of the passengers. Lacerations of the vulvar orifice and lower vagina are of such common occurrence that they are erroneously regarded by certain observers as necessary events.

The puerperal wound, thus marked out, cannot be prevented, but its limitation to these boundaries can be secured, in the large majority of normal cases, by attention to the following precautions:

1. Let the diagnosis of presentation and position, and of the stage of labor be made, as far as possible, by the methods of physicial examination of the abdomen; inspection, palpation, percussion and auscultation. Limit to the minimum the number of digital examinations per vaginam. The adequacy of the methods of physical explorations by the vagina, has been fully established by the experience of Crede, Breisky, Litzmann, Halbertsma, Winckel, C. Braun and others. In our own country, Richardson, Munde, Kucher, Neale, Hoag and others have repeatedly urged the value of these methods.

2. Let the bag of waters rupture spontaneously. The bag of waters and the presenting part—not the presenting part alone—is the physiological means by which the neck of the uterus is dilated. Dr. Henry T. Byford has ably written upon the important function of the bag of membranes in the dilatation of the vagina and vulvar orifice, and forcibly urges its maintenance in an intact state, after disappearance of the cervix, upon this ground. I have never been able to perceive any important action of the nature alleged, nor, on physical grounds, can I conceive such an effect in an important degree to be pos·ible. Nevertheless, I am perfectly willing to accept Dr. Byford's ingenious conclusions, if this notion will influence practitioners to withhold from rupturing the membranes. The intact state of the bag of membranes must be preserved for at least two reasons: 1, to secure perfect dilatation of the cervix uteri; and 2, to prevent the abscess of air and other carriers of infection to the cavum uteri. This latter important office of the bag of membranes has recently received recognition from Goodell.

3. Preserve the perineum and vulvar orifice. Except in cases of congenital malformation, or infiltration of the tissues as the result of various diseases, the perineum and vulvar orifice can be preserved in every case, either by the plan of so-called support, or by the timely performance of episiotomy. This proposition many of you will not accept, but I must maintain it as a firm conviction, based upon sufficient personal observation and experience, and independent of the unanimous testimony of those whose opinion upon this point is responsible.

But if a laceration of the perineum does occur, or if episiotomy is done, unite the rent in the one case, or the incision in the other, immediately upon the conclusion of labor.

4. Refrain from all those meddlesome, injurious practices, that have for their object the abbreviation of the first stage of labor—such as digital dilatation of the cervix, the exhibition of ergot, even in small doses, and the like.

5. Deliver the placenta by the Dublin method, or by the same plan as it has been described by Crede. Inasmuch as the adequacy of this method has been called in question, within the last six months, by a member of this Society, that alleges an experience of over 2,500 cases in obstetrics, it may not be amiss to add that in 48,249 cases—Vienna General Hospital (Carl Braun. Lehrb. d. g. Gynekologie, Wien., 1881, p. 182) eleven years, 1862-1862—the expulsion of the placenta was effected by Crede's plan in 48, 132 cases, or 99.8 per cent; only in 117 cases, 0.2 per cent,, or once in 500 cases, was it necessary to resort to other procedures.

Turn now to principle number two.

2. Prevent the infection of the lesions that are inevitable. Infection of lesions of the genital tract during or after labor occurs in one or other of two modes. 1, contact infection; second, indirect infection, so-called self-infection, or spontaneous infection (Fritsch). In the very large proportion of cases, the carier of the infection is the finger of the accoucheur or nurse, their instruments, or the napkin, and the cases are examples of contact infection. Reflecting upon such cases, Emmet once drastically remarked, "Many a woman's death-warrant has been carried under the finger-nails of her physician." But the researches of Winckel and Ahlfeld tend to show that a woman may become the subject of puerperal fever without exposure to infection through vaginal examination. Alleged examples of the so-called auto—self—

or spontaneous infection are to be found in Winckel's cases of street labors, and Ahlfeld's cases, in which no vaginal examinations were permitted. Such cases are very rare. The experience of Leopold (*Deutsche Med. Wochenschrift*, No. 20, May 17, 1888) in particular; shows that in proportion as measures to prevent contact infection are faithfully carried out, just in that proportion do these cases of so-called self-infection diappear. At the Dresden clinic, out of 1,387 cases of labor in 1887, and 1,388 in 1888, 248 cases were neither examined per vaginum, nor subjected to vaginal irrigation. In only five, or 2 per cent were slight symptoms of fever developed. All these cases of so-called auto-infection are in reality examples of infection from without. They receive full explanation in the researches of Doederlein (Arch. f. Gyn., 31 Bd., 3 Hft.) and Kaltenbach (Volkmann's Sammlung klin. Votr., No. 295,) and others. The secretions of the cervix and the vagina contain, under normal conditions, pathogenic and non-pathogenic germs, that may gain access to the cavum uteri, or may penetrate into lesions of the cervix and vagina, and cause local, followed by general infection.

In the prevention of the infection of the inevitable lesions of child-birth, it is necessary to bear clearly and distinctly in mind these two modalities, and to concentrate attention upon their elimination. At the present, the fear of the deleterious influence of the atmosphere has abated, just as in surgery (Kummel. Bedeutung der Luft und Contact-Infection f. die pract. Chirurgie, *Arch. f. Klin. Chirurg.*, 33 B. 3 H.) the scrupulous attention paid to the disinfection of the surrounding air in the early days of Lister has relaxed. The specific details observed in the prophylaxis of contact and so-called self-infection of the lesions incident to structural and functional pecularities of the region, are strictly analagous to, if not identical with the precautions that every surgeon abreast of the times enjoins in the prevention of wound infection in all major and minor operations. The surgeon sterilizes the field of operation, the immediate environment, and everything that comes in contact with the wound; the obstetrician acts under the same principles.

The specific details are:

A. Precautions Observed by the Accoucheur and Nurse.

1. Sterilization of the hands, of all instruments and appliances, napkins, and the like, that are liable to be brought into contact with the genitalia. In the disinfection of the hands, it is necessary to bear in mind the vital significance of subungual dirt, of the exact surgical aspects of which Fuebringer (Untersuchungen und Vorschriften uber die Desinfektion der Hande des Arztes nebst Bemerkungen uber der bakteriologischen Charakter des Nagelschmutzes. Weisbaden. Bergmann, 1887) has informed us. To sterilize the hands, it is necessary to wash them thoroughly in warm water with soap and a clean nail-brush, remove subungual accumulations and trim the nails with a knife; then dip the hands into an 80 per cent solution of alcohol (Fuebringer); finally rinse the hands carefully in a solution of corrosive sublimate 1:1000. Make the examination before wiping the hands with a towel. In the disinfection of the hands it is well to include the disinfection of the forearm; it is absolutely obligatory in the event of any operative procedure, like version or the forceps operation. A lubricant can usually be dispensed with, although there is no objection to the use of a solution of corrosive sublimate in glycerine, 1:1000. Instruments can be effectually sterilized by being boiled in water five minutes (Davidsohn.) For washing the genitalia, cleaning wound surfaces, for napkins and the like, employ either sterilized absorbent cotton, or sterilized gauze, to the total exclusion of sponges. Pass the catheter, after cleansing the meatus urinarius, by sight, not by touch; use a glass instrument; keep it constantly immersed, when not in use, in a solution of corrosive sublimate in glycerine, 1:1000; you will thus avoid cystitis (Boxall, R.)

2. The important question, "How soon after exposure to sources of infection may the accoucheur or nurse resume the practice of

obstetrics?" has received a very satisfactory answer in a paper by French of Minneapolis. Under exposure to sources of infection, be it remarked, we understand exposure to puerperal fever, erysipelas, diphtheria, scarlet fever, pus secreting wounds or surfaces, cadaveric emanations, menstrual and lochial discharges, and the like. In the paper mentioned, French collected the written opinions of the leading surgeons and obstetricians, whose utterances were at all authoritative upon the point, in this and foreign lands. The weight of opinion was that the lapse of any definite period of time—say twenty-four hours—was not an essential condition to adequate disinfection. That a Turkish bath, a change of clothing, and the subsequent disinfection of the hands and forearms might render the individual surgically clean in a much briefer space of time.

B. Precautions to be Observed with Reference to the Parturient Woman.

1. Before the first examination per vaginam, and before all operative procedures that involve the introduction of the hand or instrument, it is necessary to sterilize as far as possible the pubic hair, vagina and the accessible portion of the genital tract. Winter (*Zeitschr. f. Geburtsh. u. Gynak.*, Bd. xv, Heft. 2), as before remarked, and others have shown that under normal conditions, pathogenic microbes are present in the cervical and vaginal secretions of more than half of all cases; that they are present within the cavum uteri and tubes only when they have been introduced, as by the use of the sound. The possibility of so-called auto-infection is thus demonstrated, even in the absence of the evidence adduced by Ahlfeld, Winckel and others. The difficulty in the absolute sterilization of the canal of the cervix uteri and the vagina is great, almost insurmountable. Steffeck (*Zeitschr. f. Geburtsch. u. Gynak.*, Bd. xv, 2 Heft) concludes a very instructive series of experiments upon this point, in the following words: "A thorough washing out of the lower segment of the cervix and the vagina by the aid of two fingers, and subsequent careful irrigation, with one litre of sublimate solution (1:3000) or 3 per cent carbolic acid solution every two hours is essential to the sterilization of the parturient passages." Experience, however, teaches that surgical cleanliness of the woman and relative sterility of the parturient canal may be secured:

*a.* By a full bath in warm or hot water, in which soap is freely applied about the pubic hair and external gentalia, and

*b.* By thorough vaginal irrigation with sterilized water, or dilute solutions of sublimate or carbolic acid.

In conclusion upon this point let us bear in mind the fact that sterilization of the parturient passages is obligatory as well in the prevention of ophthalmia neonatorum, as in the prophylaxis of puerperal fever.

2. Let the hand follow the contracting uterus, when the head has passed the perineum, and remain upon the fundus until the placenta is expelled, and until retraction of the uterine musculature is secured. Of course, the placenta and membranes must be critically inspected as to their integrity. In case of retention of a bit of placenta, normal or succenturiata, the offending fragment must be removed. In case of retention of portions of the chorion or decidua, it is safter to trust to the uterus for its spontaneous expulsion. Small clots of blood, lurking in the cavum uteri, and loitering fragments of the membranes will do no harm, provided they have not been infected.

3. After the completion of labor wash the external genitalia and irrigate the vagina, to remove the detritus, and apply a sterilized napkin. Daily vaginal irrigation during the puerperium is strongly contra-indicated in normal cases of labor. Let the external genitalia only be washed during the lying-in-period.

4. The cavity of the uterus ought never to be irrigated after labor, except in the presence of a distinct indication. When the hand is introduced as in version, when the liquor amnii is discolored as in protracted labors, when the fetus is dead or macerated, this in-

dication is presented. For the purpose of irrigation, use sterilized water: there is considerable danger of resorption from the use of carbolic acid or sublimate. To effect permanent disinfection of the cavum uteri, use either iodoform or salicylic acid alone or in combination. I give the formulæ as suggested by v. Mosetig-Morhoof in 1881 and by Ehrendorfer still later. (Emil Ehrendorfer, *Leitung der Geburt und des Wochenbettes nach antiseptischen Principe.*)

| | |
|---|---|
| Iodoformi pulv. - - | 20.0 |
| Amyli, - - - | 20.0 |
| Glycerine, | |
| Gummi Arab, - | aa 1.0 |
| Ol. terebinth, - | gtt. xx |

M. f. bacilli Nr. sex.

| | |
|---|---|
| Acidi salicyl, - - - | 5. |
| Amyli, | |
| Glycerine, | |
| Gummi Arab, - - | aa 1.0 |
| Ol. ricini, - - - | gtt. x |

M. f. bacilli Nr. decem.

(Schnitzler's Klinische Zeit-und Streitfragen, Wien, 1888.)

Now, after disinfection of the cavum uteri by irrigation, and its permanent disinfection by iodoform or salicylic acid, let the uterine cavity severely alone for the entire period of the puerperium. More Madden writes in the paper on "Puerperal Fever," read before the last International Medical Congress, "From the first day after delivery until convalescence has taken place, the uterine cavity, as well as the vagina, should be daily washed out with water as hot as can well be tolerated." Such a notion of the prevention of infection is an example of irresponsible opinion, that needs no condemnatory comment. The procedure is barbarous and in utter opposition to the views and practice of those that speak and write with authority upon this subject.

5. It is an axiom in obstetrics that a firmly contracted uterus is well nigh proof against infection. During the first two days of the puerperium gentle friction of the fundus uteri, twice daily, aids materially in securing firm retraction of the uterine musculature, and does not at all interfere with the process of puerperal thrombosis. This practice originated in Carl Braun's clinic. It is more efficient than the use of ergot. Commonly, there is no objection to the use of this drug in addition.

C. Precautions with Reference to the Environments.

As before remarked, no attempt is now made to disinfect the air. Delivery under the spray and in a tub of water—a curious Russian device—has passed into ancient history. The only condition in the environment that we demand is a clean bed and clean linen; but these are not essential conditions provided the items, already mentioned, have been supplied. It would be better for the parturient woman if the confinement room had no communication with the sewer, since vitiated air is unwholesome under all conditions of human life. But this is by no means an essential condition. As aptly remarked by Kucher, "I would be less frightened by the bursting of a sewer pipe during labor, than by the use of a suspicious sponge or an unclean rag on the external genitals."

Thus, very briefly I have tried to outline the principles and the practice of the prevention of puerperal fever. To complete the subject of the prevention of puerperal infection, a word ought to be said on the prevention of the infection of the breasts—mammary abscess—and upon the prevention of the infection of the new-born; these topics, however, cannot be considered in the space of time at my command.

One word in conclusion. These rules are simple and easy of application as well in private as in hospital practice; as well on South Halstead Street as on Calumet Avenue. The evidence upon which they rest to day is overwhelming, and amounts to absolute demonstration. The proposition that puerperal fever is in every case an example of infection through a lesion of the genital tract, is no longer offered tentatively for your criticism, but dogmatically for your acceptance. It is not within the scope of this paper to offer statistical proof, but if there be a doubting

Thomas present, and if he be a sincere, honest seeker after truth, let him look for such figures in the books, for they are there.—*Jour. Amer. Med. Assoc.*

## THE TREATMENT OF ARRESTED RESPIRATION IN ANESTHESIA.

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AND

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In a paper read before the Medical Society of London, Dr. Benjamin Howard maintains the following propositions:

1. The epiglottis falls backward in apnea and closes the glottis; the first thing in order and importance in the elevation of the epiglottis.

2. Traction upon the tongue, however, and whatever the force employed, does not and cannot raise the epiglottis, as supposed.

3. The epiglottis can only be raised by extension of the head and neck.

4. The full effect of extension can only be secured with certainly by making it directed.

5. The method of making extension is as follows:

"Having, by bringing the patient to the edge of the table or bed, or by elevation of the chest, provided that the head may swing quite free, whith one hand under the chin and the other on the vertex, steadily but firmly carry the head backward and downward; the neck will share the motion, which must be continued till the utmost possible extension of both head and neck are obtained. Sometimes a slight elevation and extention of the chin will at once check stertor or irregularity of breathing; but understand, the extention which can in no case do harm, should always be rather more than appears necessary. It should never be forgotten, however, that the full effects of extention, as above described, can be secured with certainty only by making the extention complete as directed."

These propositions are, in some respects, so contrary to the daily experience of surgeons and anesthetizers, and, if well founded; are of supreme importance in cases of suspended animation that we have conducted a series of experiments designed to test, in so far as this is possible by working upon the dead body, the validity of Howard's conclusions.

Limiting our inquiry to those cases of threatened death which occur from respiratory obstruction during the administration of an anesthetic, we must first endeavor to discover the mechanical cause which is principally operative in producing such obstruction. We presume that by apnea, Howard means, not a condition of suspended respiratory efforts through hyperoxidation of the blood, which is the true significance of the term, but cessation of respiratory movement. We cannot believe the epiglottis is chiefly at fault as an obstructive agent, because; in the vast majority of cases, the air-passage is at once made free by drawing the tongue forward; since tip-traction has no effect upon the epiglottis, as stated by Howard and confirmed by our own observations, this manipulation could not relieve the breathing were the epiglottis the cause of the difficulty. The effect of traction upon the tip of the tongue is to draw this organ free from the soft palate and the post-pharyngeal wall; it is the tongue then, fallen back upon the posterior wall of the pharynx, which is the most common obstructing cause, consequently the tongue should receive the most immediate consideration. We do not for a moment deny the possibility of respiratory difficulty being caused by the epiglottis alone, though experimentally the inward passage of air was very little influenced by any position of the epiglottis, provided the tongue was carried well forward; we would insist, however, upon the position of the tongue as a matter of prime importance. Considering next the effect of tongue-traction upon the epiglottis, we are not prepared fully to endorse Howard's

statement. Tip traction moves the epiglottis not at all; this we have confirmed by many trials, both in the living and in the dead subject; but if a tenaculum is fixed in the dorsum of the tongue, two and a half inches back from the tip, traction at once draws the base of the tongue and the epiglottis with it, far forward, so that the air-passage is absolutely free, from the larynx to the mouth. Traction can, then, be so applied to the tongue that the epiglottis is raised, and the air way made absolutely free, and we have devised an instument by which this may be accomplished without the laceration attendant on the use of hooks or forceps.

Is extension of the head and neck the only method of raising the epiglottis? Again we are compelled to take exception to Howard's statement. As detailed in our experiments, the epiglottis can be raised by traction upon the dorsum of the tongue, by pressing the greater cornua of the hyoid bone forward, by the action of gravity in the abdominal decubitus, and most thoroughly by flexing the neck and extending the head upon the neck. That Howard's position accomplishes mechanically all that he claims for it, we freely grant. The way in which the soft, collapsed structures straighten under his manipulation, the tongue riding forward, and the epiglottis springing erect, is most striking; and we are convinced that the admirable mechanical explanation he gives for this effect is correct. Howard states:

" . . . by extension of the head and neck, carried to the utmost completeness, the backward fallen tongue, the velum palati, and uvula are all simultaneously shifted from the air-way, and the entire pharynx is enlarged throughout, as follows: *a.* The tongue, the dorsum of which before fell by gravitation upon the then horizontal posterior wall of the pharynx, falls upon the now horizontal arch of the palate. *b.* The velum palati, by means of the great tension of the palato-pharyngei muscles, is pulled away from the posterior wall of the pharynx, the entire membrane being stretched tightly forward and downward behind part of the dorsum of the tongue, forming a partition which helps to shut the tongue out of the pharynx and into the mouth, where it belongs, and with part of the dorsum forms the anterior wall of a new post oral air-way, thus created and maintained. *c.* The pharynx, anteriorly, is stretched far forward by the extremely tense sterno-thyroidei muscles acting through the thyroid cartilage, by the genio-hyoidei and mylo-hyoidei muscle acting through the os hyoidie. The base of the tongue and the velum palati are shifted forward in the manner already described, the posterior nares being shifted by the extension of the head by its occipito vertebral articulation about sixty degrees. Posteriorly, the wall of the pharynx is shifted back its whole length by the extension of the cervical vertebræ upon each other, in all about thirty degrees, extension being particularly great just opposite the glottis. Thus the upper air-way, which before was a tortuous, angular, flaccid canal—barely and, if at all, uncertainly permeable,—is made an enlarged, firm, but slightly curved tube, free throughout, from the glottis to the nares."

With all this, except the backward shifting of the posterior wall of the pharynx by extension, we are fully in accord. We cannot, however, concede that his practical deduction from these facts is a step in the right direction. With the head and neck in extreme extension, the soft palate is strapped over the dorsum of the tongue, the mouth is closed from the pharynx, and the entrance of air to the lungs depends absolutely upon the condition of the nostrils. Can it be considered an additional safeguard, an improved method, to substitute for the roomy mouth, an air-way but just sufficient at the best, subject to an infinite variety of obstructions, varying in size from hour to hour, in many persons absolutely and pernamently occluded? Certainly no American rhinologist would answer in the affirmative. Hypertrophies, polypoid growths, and vegetations are not the rare exception. The slightest congestion is frequently sufficient to block patulous nares. A nostril which will admit the little finger of the sur-

geon when the patient is standing, may become completely closed when the head is placed on a level with the body. The recumbent or independent position, the irritating effect of ether upon the mucous membrane, cephalic congestion due to insufficient oxidation, all combine to render the nostrils unsafe —in fact, absolutely impracticable—as the sole passage of communication between the lungs and the external air. We cannot believe that recourse to this method, in cases of suspended animation under anesthetics, could be followed by favorable results; if the tongue were drawn forward, it would certainly provide ample air-way, the passage from the pharynx to the mouth being opened by this manipulation. One of the great advantages of this method, however, as claimed by Howard, is that the necessity for traction upon the tongue is entirely done away with. If the necessity for drawing forward the tongue is done away with, we cannot see that Howard's method offers any material advantage over that ordinarily practised in this city.

Our experiments show that extension of the head carried so far that the base-line (Reid's) makes an angle of somewhat more than fifty degrees to the plane of the bed or table, raises the tongue and epiglottis so entirely clear of the posterior pharynx that there is ample air-way; the soft palate too lies free of the post-pharyngeal wall, but is not drawn closely across the dorsum of the tongue, thus allowing respiration to take place through the mouth. If, in the course of an anesthetization there is respiratory difficulty, the method which obtains here is as follows: The chin is immediately pressed forward by the fingers placed behind the rami of the lower jaw, at the same time and by the same manipulation the head is extended, the pillow, if any has been used, being removed; if there is still apparent obstruction, the tongue is now drawn forward. With this manipulation, except in case of foreign body or abnormality of structure, the air-passage from the mouth to the larynx is absolutely free. Hereafter we may modify this method, so placing the pillow that the neck is flexed as far forward as possible, then extending the head upon the neck, as we find that this gives us wide dilatation, the posterior pharyngeal wall representing the arc of a circle, from the concavity of which extension of the head draws forward the tongue, epiglottis and larynx. In the method as detailed above, it rarely occurs that the tongue has to be drawn forward.

Finally, we cannot grant that Howard is justified in believing of the hundred cases of death due to the administration of an anesthetic, that in each case the epiglottis was in all probability unraised and continued unraised until death was complete. The appearance of the parts after death cannot be taken as indicative of their relative position during life—when inspiratory efforts are still taking place, when the rigor mortis has not made the surrounding muscles more rigid than the epiglottis. Again, the very traction upon the tongue, as usually exerted, extends the head sufficiently to carry the epiglottis free of the post-pharyngeal wall. Finally, where inspiratory efforts are made there is no difficulty in determining whether or not air is entering the chest, the noise of its passage through the mouth and throat, the respiratory sounds is sufficiently characteristic of its free entrance; while sinking in of the intercostal spaces, epigastrium, and suprasternal region during an inspiratory effort are absolutely diagnostic of obstruction. These signs, though not so patent, are still sufficiently clear in artificial respiration, and if the cause of death were even in the majority of cases simply obstructive, this condition of obstruction would unquestionably have been recognized and remedied, if not by position, certainly by tracheotomy or intubation.

The results of our examinations, made upon several cadavers, are as follows:

By chipping away the basilar process of the occipital bone the naso-pharynx is exposed.

Subject in the dorsal decubitus, head midway between flexion and extension, eyes looking directly upward, Reid's base-line (from the lower border of the orbit through

the bony meatus) at right angles to the plane of the table.

The tongue lies in close contact with the posterior wall of the pharynx, only the tip of the epiglottis being visible. The soft palate and the dorsum of the tongue shut the mouth from the pharynx. The air passage is completely obstructed by the tongue and epiglottis.

By means of a tenaculum passed through its tip the tongue is seized and drawn forward as far as possible. The body of the tongue is drawn clear of the post-pharyngeal wall and the soft palate, but the hyoid bone, the base of the tongue and the epiglottis are influenced not at all.

The tenaculum is now fixed two and a half inches from the tip; traction draws both the base of the tongue and the epiglottis well forward.

The fingers are passed behind the angles of the lower jaw, and the latter is pressed forward; this elevates the epiglottis and the base of the tongue about a quarter of an inch from the post-pharyngeal wall. Extending the head so that the base-line makes an angle of forty-five degrees with the plane of the table, draws the base of the tongue and the hyoid bone far forward, this motion being at the same time imparted to the epiglottis, so that the latter stands upright and is separated from the posterior wall of the pharynx by an interval of about an inch. By tightly closing the jaw the antero-posterior space is still further increased.

The body is drawn to the end of the table so that the head hangs free, the latter is now extended till the base-line is parallel to the plane of the table, the antero-posterior space between epiglottis and pharynx is slightly greater than that which obtains from moderate extension. At the same time, the tongue drops toward the roof of the mouth, the soft palate is put upon the stretch, and the mouth cavity is shut out from that of the pharynx.

Placing the head so that the base-line is perpendicular to the plane of the table again produces complete closure of the pharynx, owing to the tongue and epiglottis falling directly backward.

Placing the fingers upon the posterior cornua of the hyoid bone and pressing the latter directly forward carries the epiglottis and tongue about one-half inch forward, and entirely free of the post-pharyngeal wall.

With the head moderately extended and the jaw pushed forward an effort is made to crowd the tongue and epiglottis against the post-pharyngeal wall; this is found to be impossible.

Flexing the neck by lifting the head forward (keeping the base-line perpendicular to the plane of the table) separates the post-pharynx from the epiglottis and the base of the tongue by about one-half an inch. Extending the head upon the neck, the neck being still flexed, produces a yet wider separation, the antero-posterior diameter of the breathing space. being somewhat more than an inch.

Placing the body in the position of abdominal decubitus, the base-line being perpendicular to the plane of the table, the hyoid bone, base of the tongue and epiglottis all fall forward, leaving an interval of about a half inch between the epiglottis and post-pharyngeal wall.

On elevating the shoulders, by seizing them and lifting them directly upward, this space is increased to fully an inch; at the same time the arytenoid cartilages are drawn backward, exposing the glottis throughout its whole extent.

Bringing the body to the end of the table and letting the head droop forward (still in abdominal decubitus), thus flexing the neck to its full capacity, then extending the head at the occipito-atloid articulation, exposes the larynx more completely than any of the previous postures or manipulations.

Conclusions.—The epiglottis may prevent free entrance of air to the lungs even though the tongue is pulled forward. Any means which accomplishes the anterior projection of the hyoid bone immediately and infallibly raises the epiglottis and the base of the tongue.

The hyoid bone may be made to project anteriorly by direct pressure upon its cornua,

by direct pressure or traction applied to the dorsum of the tongue behind the anterior half arches of the palate, by the action of gravity in the abdominal decubitus, or by extension of the head upon the neck.

Extension of the head upon the neck carried as far as forty-five degrees produces practically as patulous a condition of the airway as forced and extreme extension. At the same time this moderate extension usually leaves sufficient room between the palate and the dorsum of the tongue for breathing to continue through the mouth.

In forced extension of the head and neck the entrance of air into the lungs depends upon the sufficiency of the nasal passages.

Flexion of the neck with extension of the head upon the neck does away with the epiglottis as an obstructing factor as completely as any other posture. This is best accomplished by supporting the head upon a high pillow, then pulling it directly backward by the hand placed under the chin, so that the weight of the head falls upon the occiput rather than upon the back of the neck.

Therefore, in case of an urgent respiratory crisis in anesthetization we would direct that the index fingers placed behind the greater cornua of the hyoid bone, and the middle fingers resting upon the angles of the lower jaw, both these structures can be pressed directly forward, the same force also serving to extend the head upon the neck. If obstruction to breathing still persists, the tongue should be at once drawn or pushed forward by force exerted upon its dorsum posterior to the anterior half arches.

No force unless directly applied to the tongue itself is sufficient to prevent this organ from acting as an obstructing factor. No manipulation yet devised can, in every case, take the place of direct action.

The tongue may act either in conjunction with the pharyngeal walls or with the palate in preventing free entrance of air. If the position of moderate extension and direct traction or pressure upon the tongue fail to remove the obstruction to breathing, intubation or bronchotomy remains as the last resort.—*Med. News.*

## THE QUESTION OF INTERFERING WITH THE ABSCESSES OF HIP DISEASE.

BY A. B. JUDSON, M. D.,

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(Two cases of hip disease were shown in which abscesses had been absorbed. In one patient, a girl five years of age, the disappearance of a fluctuating tumor of long standing was followed by a dimple in front of and below the great trochanter caused by the contraction of the fascial tissue lying between the integument and the bone. At one time the redness of the skin and the proximity of the pus to the surface led to the belief that the abscess was about to open, but these indications were of short duration. The depression and limited mobility, the latter revealed by palpation and active and passive motion, of a small area was exactly what is found in a scar depressed and attached to fascia, such a scar as follows a discharging sinus, except that the depression was covered by normal skin instead of cicatricial integument. The patient was convalescent, still wearing the hip-crutch without traction, and had been free from symptoms for more than a year. The other patient, a girl eight years of age, came under treatment when three years old. There were nocturnal pain and the usual signs of hip disease. One year later a fluctuating tumor appeared below and in front of the great trochanter, and persisted for a year, the fluctuation extending two inches and a half in a line parallel with the axis of the shaft of the femur. From the beginning the thigh had been enlarged by infiltration of the cellular tissue. About the time the fluctuation appeared the pain ceased and the thigh lessened in circumference, and eight months after its appearance the thighs were equal. Four months later, when it had disappeared, leaving no trace, the thigh was three-fourths of an inch smaller than that of the sound side. It is now an inch and a fourth smaller. The coincidence of the cessation of pain and reduction of swelling with the appearance of

the fluctuating tumor is explained by the supposition that the pain and inflammation attended the confinement of the pus and ceased when it escaped into the cellular structures. The patient had been free from symptoms for the past three years and a half. Treatment was suspended last spring. These were typical cases of hip disease and exhibited to a moderate degree the symmetry and disability which generally attend recovery.)

These cases are instructive. They are examples of the favorable result which sometimes follows breaking the time-honored rule that abscesses call for the use of the knife. They may be considered as an offset to two cases which were shown to the Section last May as examples of the good results of antiseptic incision and scraping.

I regret that I was not present when those cases were shown, because a paper in which I had presented the advantages of non interference with the abscesses in question was made the subject of adverse criticism. One of the speakers on that occasion, my good friend Dr. Sayre, referred to my views in terms which may have been useful as lending animation to the debate of the evening, but which are of doubtful utility in a scientific discussion. I refer especially to the following words: "It was a disgrace to the orthopedic surgery of America to allow such statements to go abroad uncontradicted." Eloquent invective, such as this, has legitimate and praiseworthy applications in some fields of human effort, but it is quite devoid of meaning in a meeting of medical men gathered to consider questions of theory and practice.

The views which I expressed in 1885 were the result of a number of years of experience and studious observation of cases in dispensary and private practice, and they have been but confirmed by the added experience of the past four years. Such cases as those which I have shown this evening are illustrations of the advantages which sometimes attend withholding the knife. Although, as a rule, the fluctuating tumors of hip disease are followed by purulent eruption, I have seen a number of cases of hip disease and Pott's disease of the spine in which abscesses have disappeared with most favorable results. Observations of this kind are by no means rare in orthopedic practice, as many of us well know. It may be supposed that the water which makes up the bulk of these gatherings is absorbed without difficulty while the residuum coalesces with the cellular tissue, leaving in some cases, like one of those shown to-night, subcutaneous bands of cicatricial tissue, which derange the orderly relations of the normal connective structures. It is not clear why some abscesses are thus absorbed while others approach the surface, perforate the skin, and are evacuated, any more than it is clear why some cases of joint disease are attended with while others are free from abscesses. It is not improbable that many cases which are said to be free from abscesses have collections of pus limited in quantity and deep in situation which remain quiet and finally disappear without impeding the progress of the case toward recovery. We may, perhaps, look for the reason of this diversity in the individual diathesis rather than in the local peculiarities or accidents of a given case.

Very few, however, of the abscesses of hip disease will thus conveniently disappear, and the question of what to do with them is one of every-day orthopedic practice, and very properly a question for consideration by the members of this section. Although each case as it occurs must be judged by itself, it will be well to recall a few considerations applicable to all cases of the kind. It will, for instance, be generally admitted that in a purulent case of hip disease the abscesses and sinuses are secondary in importance to the condition of the diseased bone from which they spring. They can hardly be considered as adding to the gravity of the case, because destruction of the soft tissues is less serious from every point of view than destruction of the osseous tissue. It is difficult also to see how a purulent sinus can prolong the duration of a case, because its natural tendency is toward cicatrization, an event which is delayed only by the obstinacy of bone disease. It is also very doubtful, in my opinion, whether

abscesses and sinuses hold the relation of cause and effect to visceral degeneration. In the cases of visceral complication which I have seen I have had no reason to question that the disease of the abdominal and thoracic organs has been an expression of a morbid constitution of which the pernicious course of the joint disease is but another expression. Neither will it do to say that the presence of pus forbids the repair of carious bone when cases occur in which recovery is accompanied by the disappearance of abscesses by absorption, and many others in which recovery from the local affection and the restoration of the patient to perfect health are marked by the opening, discharge, and cicatrization of one or more abscesses.

To the general surgeon or to the beginner in orthopedic practice it is difficult to refrain from operating on the abscesses that appear in the progress of a case of hip disease. The traditions of surgery and the expectation of the friends of the patient suggest radical measures and prompt action. There is, however, a notable class of cases in which it is comparatively easy to postpone interference. I refer to those cases in which a single accumulation of pus takes place with a large fluctuating tumor and without pain. The general health of the patient in such cases continues good and he persues, with the help of the hip splint, the ordinary mode of life. There is an entire absence of symptoms connected with the tumor. There is no urgent call, local or general, for interference. The size of the tumor, which is sometimes enormous, and the thinness of its walls, and nothing else, suggest the use of the bistoury and the evacuation of the fluid. The result in such cases of practicing the purest expectation so far as the abscess is concerned is that the integument becomes gradually exceedingly thin at one point and at length ruptures with collapse of the tumor and a slight purulent discharge for a longer or shorter time, with finally an unimportant scar more or less deeply attached to the fascia and perhaps, also, to the bone beneath. As a rule, the sac opens unexpectedly while the child is at play. In two of my cases the opening occurred during sleep, and the child supposed in the morning that he had wet the bed. The entire history of such an abscess after the fluctuating tumor is recognized is free from pain. It does not impair the patient's health in the slightest degree, and it has no appreciable bad effect on the progress of the bone disease toward recovery or on the condition in which recovery leaves the patient. There is nothing to suggest operative interference except adherence to the old rule.

There are, however, cases in which abscesses follow a widely different course. Instead of a painless we have a painful tumor, hot and red. The limb may be greatly swollen, but by an infiltration rather than a collection of fluid. The skin is tense and brawny. The patient is kept awake by pain, has no appetite, and wastes away. He keeps in bed, insisting on the maintenance of traction. After a while the tumor points and opens with diminution of pain and improvement for a time in the general condition. But pus gathers again and opens at another point with a repetition of the pain and prostration, and this occurs again and again, until there may be a number of sinuses on all sides of the thigh and hip. It is difficult to conceive of a surgical case more sure to give the medical attendant anxiety and more suggestive of the necessity of resorting to heroic measures. It is not strange that a similiar condition in the knee made amputation a few years ago, and later excision, the routine treatment. I have treated, as doubtless others of us have, a number of such cases, both in the hip and the knee, as well as in the ankle, without interfering with the natural course of the abscesses, but with unremitting attention to the mechanical and hygienic requirements of the case, and had no reason to regret the result, except so far as I have thus put myself out of harmony with prevailing surgical opinion—I mean the opinion prevailing among general surgeons—which still commends rapid and strenuous procedures in these cases. I have no desire to willfully oppose accepted views, but am impelled by the

favorable results of experience to state that my practice in these difficult cases is: (1) to give the bone and joint the most absolute mechanical rest possible; (2) to insist on the most liberal and varied diet, of which, as a rule, milk in unlimited quantities is the staple; (3) to permit the use of opium, which, if used, is to be given in potent doses.

I should not omit to give my reasons for failing to see the importance of incision, scraping, and antiseptic closure of the abscesses in question. Incision is a tardy and fruitless procedure. The most painful stage in the history of the abscess is long past. It was present when the pus was collecting under the periosteum and in the cells of bone. If we could interfere early with the bistoury and knew where to direct its point, we might relieve the pain, and perhaps, in favorable circumstances, shorten the case and save bony tissue by dividing the thickened periosteum or breaking the shell of compact bone. But when the pus is in the cellular structures or the cavity of the joint, I do not see that the progress of the case can be materially affected by interference. If the abscess is cold, there is no painful tension to be relieved. If it is phlegmonous, tension is the result of inflammatory infiltration and can be relieved only by extensive and multiple incisions. If we operate in either case we substitute artificial for natural closure, and with the best antisepsis we gain nothing by operating unless we reach and scrape out the purulent depot or the interior of the joint, and then nothing unless we remove the eroded cartilage and exfoliating bone and excavate the focus, and then nothing in many cases unless we remove large quantities of bone or excise the joint. And if we operate in the manner described we do not avoid the necessity of bringing to bear the best mechanical treatment and hygienic control, which, if they are supplied, will bring about recovery, whether we operate or not, by the slow but sure process of natural repair, with the better result the less we interfere with the soft parts, as a general rule.

I would not be understood to assign no value to the use of the knife in exceptional cases, but simply to hold the opinion that in the management of the majority of the abscesses of hip disease operative interference is useless.

It is not agreeable to make distinctions and to divide one's fellow-practitioners into classes, but, as was pointed out by Dr. Ketch in the discussion of last May, above referred to, it does not take much observation of the way in which the abscesses of hip disease are treated at the present time to see that the general surgeon, whose reliance is chiefly on operative procedures, resorts to the knife with the hope of promoting a rapid recovery, while the orthopedic surgeon, whose reliance is chiefly on mechanical means, seeing that the case, no matter how treated, will be long and tedious, devotes himself to the proper management of the bone disease, and thinks but lightly of the incidental abscesses.—*N. Y. Med. Jour.*

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## ON THE PERIOD FOR SURGICAL INTERFERENCE IN ACUTE INTESTINAL OBSTRUCTION.

Dr. B. W. Richardson read a paper with the object of eliciting an expression of opinion as to the proper moment for resorting to surgical interference in cases of intestinal obstruction. He confined his remarks to acute attacks, leaving on one side all cases of the chronic kind, from malignant stricture to hernia.

He narrated a typical case which he said might serve as the base of his observations. The patient was a gentleman who had gone to bed in apparent good health, but was awoke during the night by violent pain in his abdomen, and special symptoms pointing to mechanical obstruction high up. He was called to the case by Mr. Buckston Brown. Purgatives had been tried without effect and a long tube was passed into the bowel and an injection used, but without affordiug any relief. There was an obscure history of gallstone some years before. There was no fever, but the conjunctivæ were tinged slightly

yellow. On making a careful examination of the abdomen, a well-defined hard substance could be felt in a line with the transverse colon, movable laterally, but not in any other direction. They arrived at a diagnosis of obstruction caused by impacted gall stone. The patient complained of nausea, but there was no vomiting. They injected a copious enema of oil and soon after a fair sized gall-stone passed the rectum. This was followed by immediate relief, but some hours later the pain returned, and then there was vomiting with a fecal odor. They determined to try another injection of oil, and other mild measures, and to operate in the morning if relief had not been obtained. During the night symptoms recurred with such violence that the patient rapidly passed into a condition of collapse and died before any thing could be done.

At the post-mortem examination they tried what could have been done by operation, and they could easily have come upon a calculus fixed in the lower part of the small intestine, a little above the cecum. This could have been pushed along the gut and extracted without difficulty and without opening the in testine. Three other small calculi were found in the colon, and at the entrance to the common bile-duct there was some ulceration and adhesion, together with an abscess of the substance of the pancreas.

He discussed the nature of the case and the chances that early operative interference would have been followed by relief to the symptoms. He summarises his conclusions as follows:

1. That in all cases of acute intestinal obstruction the use of milder measures, such as purgatives, enemata, massage, etc., might safely be carried out until the supervention of fecal vomiting.

2. That as soon as this was established an exploratory incision into the abdomen should be made without delay.

3. That obscurity of diagnosis, in the presence of this symptom, ought not to be allowed to stand in the way of an operation.

4. That clinical experience showed that there was very little chance of recovery when once stercoraceous vomiting had declared itself unless an operation was performed.

5. That fecal vomiting was a symptom of much more gravity than would attach to the mere mechanical effect of obstruction.

6. That symptoms of collapse were not a contra indication to operative interference.

The President observed, in regard to the question as to when to operate in acute intestinal obstruction, that some men would say, when the physician had done his best or his worst; as a general rule the surgeon was called in too late. He urged that the symptom proposed by Dr. Richardson as the test would not be applicable to a large class of cases in which the obstruction was high up, say in the jejunum. In such cases fecal vomiting could not take place, and if they allowed the patient to go on while they waited for that sign his chances of recovery would be few.

Mr. Bryant urged that surgeons ought to be guided less by this or that sign than by the diagnosis of the particular nature of the strangulation. He objected to the term obstruction, as applying only to the cases in which the difficulty came from the inside, by far the least frequent source of mischief. In any case he thought that much valuable time would be lost if the advent of fecal vomiting were awaited; by that time a great deal of mischief was done. He said that directly the surgeon was satisfied that there were symptoms of strangulation he ought to be prepared to operate.

Dr. Routh protested against too speedy a resort to operative procedures. He said he had met with a great many cases in which recovery had ensued without operation, although stercoraceous vomiting had occured. He advocated a freer use of antispasmodics, such as chloroform and belladonna.

Dr. Richardson in reply admitted that he had not mentioned the cases of obstruction high up. Such cases were very rare. He preferred the term obstruction as more comprehensive than strangulation. He doubted the ability of the surgeon to arrive at a differential diagnosis in a large propor-

tion of the cases, and fecal vomiting was generally the first sign to impress the medical attendant with a sense of the gravity of the case. If they confided in the plan suggested by Dr. Routh the patients would often die, for want of more radical measures.—*Br. Med. Jour.*

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## HYPERIDROSIS OF THE FEET AND ITS RELATION TO CATARRHAL AFFECTIONS OF THE HEAD.

BY LE ROY DIBBLE, M. D., KANSAS CITY, MO.

In the last two years my attention has been called to a class of persistent catarrhal affections of the head. Many of these cases, after having been treated and apparently cured, return. In fact, the question most often asked is, "Doctor, will not my catarrh return?" I am obliged, in honesty to my patients, oftentimes to say I fear it may. I have adopted the plan, recently, of questioning my patient minutely in regard to the foot-coverings and underwear used. I then ask them if they have sweating of the feet. I find in these recurrent and persistent cases of catarrh fully 96 per cent have. It goes without saying, there is no cause so prolific of colds as damp or wet feet; and right here is the key to the whole situation; wet or damp feet, the result of excessive sweating.

The majority of catarrhal cases are due to climatic changes. I find in women, however, that it is due also to dressing of the feet. They wear many of them the thinnest kind of cotton hose, summer and winter alike; the shoes worn are almost no protection the soles are so thin. In the house low shoes are worn.

It is a well-known fact that drafts through rooms are almost always on the floor, and if the foot coverings are inedequate, "cold in the head" follows. These cases arecured by proper hygienic measures.

When cartarrh is the result of hyperidrosis it presents many difficult problems. This disease, as is well-known, is often obscure in its origin. It may be the result of a disturbance of the nervous system, general debility, or faulty nutrition. My attention was first called to this disease as a cause of recurrent catarrh by a gentleman whom I had treated and apparently cured, he casually remarking that he wished I would give him something to stop his feet from sweating so much. In three or four hours after putting on his shoes, the feet, as he expressed it, were "wringing wet and as cold as ice." Not only the stockings, but the shoes were wet. He had been advised by his family physician to wear cotton stockings to prevent sweating, which only made bad matters worse. "When wool is wet it is warm," is an old saying; but cotton is cold. I have noticed that the most persistent cases of catarrh were where the patients wore thin cotton stockings, especially if they had hyperidrosis.

I have treated this class of patients by directing them to wear woolen stockings changed twice a day; also to have two pair of shoes, so that they can be changed every night and thoroughly dried before being worn again. I direct them to use one of the following prescriptions:

℞ Tr. ferri muriatis . ℥ii.
Apply to soles of feet and between toes on retiring.

℞ Chloral hydrate . . ℈ii.
Aqua . . . . ℥i.
Apply as above.

℞ Potassii permanganate ℈ii.
Aqua . . . . ℥ii.
Apply as above.

If the hyperidosis is the result of debility, of course tonics are indicated. If from defective enervation, phos. acid dil., strychnia, and phosphorus are indicated.

By the local and constitutional treatment indicated above, and the usual applications suitable in catarrhal affections I have usually been successful in curing my cases.—*Kansas City Med. Rec.*

# THE WEEKLY MEDICAL REVIEW.

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## REPORT ON PROGRESS.

### DISEASES OF THE NERVOUS SYSTEM.

FRANK R. FRY, M. D.

I. CASES FROM CHARCOT'S CLINIC.
II. A CASE OF MORPHINE POISONING.
III. A CONTRIBUTION TO THE SURGERY OF THE SPINE.

### CASES FROM CHARCOT'S CLINIC.

The two following cases from Prof. Charcot's clinic on nervous diseases are (specially) reported in the *Med. News* of Feb. 9, 1889: They belong to a class of cases that the great neurologist seems to delight in studying and discussing. Whatever he has to say about hysterical and kindred phenomena demands much attention. He is even throwing light on these cases from new directions, and bringing out the value of symptoms that escape the observation of those of more ordinary information and experience.

To those of us in this part of the world who have followed to some extent the reports of his clinic, even though we hear comparatively little of it, it seems almost wonderful that there should be, even in Paris, such an amount of this kind of clinical material.

#### HYSTERO-EPILEPSY.

"This patient I present to you now was treated eight years ago by my excellent colleague, Dr. Labbe, for six months, for attacks of epilepsy. According to the patient's statement, he had an aura, a sensation of vertigo was the beginning of the attack, and he gradually lost consciousness. He does not remember whether he felt constriction of the neck, but he recollects that he heard, previous to his attack, a whistling in his ears. He has had as many as seven fits a day; some of them would last two or three hours and when he had a fit several men were necessary to keep him down—he rolled about, twisted himself in every possible manner, and broke everything that came within his reach: such are his statements. He has been cured since he left the hospital.

Well, gentlemen, according to the description given us by this man, I think I can state that we have not a case of epilepsy to deal with. When an epileptic has a fit he is more quiet, he falls suddenly in a corner somewhere, and he does not strike around him, as this man has done, and four men are not necessary to keep him down; moreover, the evolution of the disease, the great number of fits in a relatively short time, the existence of a special aura, and finally the absolute cure of the patient, all indicate hysteria—and major hysteria.

He has never had any fit in bed, but he now occasionally awakens with a sentiment of fear. Let us see if there are no remains of hysteria, no shortening of the field of vision, no anesthesia. Asking him why he comes to us, since he has been cured of his fits, he tells us that when he wants to cross a large empty square, the larger the empty place is the more frightened he is; he is unable to move his legs, they are as if they were cut—he says that they are like lead; in addition, he experiences an indescribable emotion. If I ask him whether he is able to get over his fear and cross the place, he tells me he cannot do so, and he fears he would lose consciousness should he attempt it. When he desires to cross a bridge he has the same fear, but to accomplish this he follows a car, looking in its interior, and, says he,

should he find that he was going to feel bad he would jump into the car and cross the bridge in that manner, without knowing it. This state is called "agoraphobia," a special nervous state, which has been discovered by Prof. Westphal, of Berlin.

When travelling on a railroad he is frightened, because he feels he is locked in; and whenever he is placed in a narrow space he feels uneasy. The other day when a train in which he was began to move he had the sensation of a vertical or perpendicular rapid descent and he quickly rushed out of the car at the risk of killing himself; but the annoyance of this sensation was so great that he was unable to control himself. This is a vertigo or hallucination of translation, which occurs in a very slight degree in certain persons; when at night the train begins to move we feel suddedly as if the train was going in the opposite direction, and sometimes as if we were going perpendicularly down. While crossing a bridge in a train, our patient has also thrown himself down on the floor of the wagon, not knowing that he was doing it. This belongs to the section of height vertigo. The same occurs when he finds himself in a very high house, and looks out the window: he has then a terrible fear, a great uneasiness.

This state of fear and vertigo has existed only since he has had his convulsive disease. This disease he attributes to a fright; three men rushed on him one night, which caused him a great fright, which was followed by tremor; but this I only consider as an occasional cause. He dreams, and he has sometimes thrown himself out of bed, dreaming that he was falling. He is unmarried. He tells us a very interesting fact of his family history—his uncle died insane after two attacks of insanity. Here we have the real cause of his trouble, heredity. This case is a very interesting one to study.

HYSTERO-TRAUMATIC PARALYSIS.

You know that I maintain that hystero-traumatic paralysis possesses sufficiently marked characters that allow it to be recognized in the majority of cases.

Here we present to you a young patient who suffers from muscular atrophy, non-spinal amyotrophy, which has been named by Duchenne de Boulogne hereditary muscular atrophy; in addition, our young lady is a classical hysterical patient, and has a hemianesthesia of the right side. I showed you, a few weeks ago, the case of a woman who, after having struck her child in the face, felt her hand hanging: that was a case of hystero-traumatic epilepsy.

Our present patient, a few days ago, while awaiting her turn to be electrified, in the adjoining room, where the electrization is going on, placed her hand unconsciously on the strap which communicated its movement to a static electric apparatus, and the left hand was slightly pinched between the strap and the motor wheel. As soon as this was done, the patient, very much frightened, felt in her left hand and forearm a certain numbness, and four or five minutes later only did the paralysis of the fingers and wrist present itself. It was at this moment absolutely impossible for her to move her fingers and wrist, which fell without any trace of contraction. Absolute cutaneous anesthesia extending as far as the upper portion of the forearm, and limited by a line perpendicular to the axis of the forearm, assuming the form of a long glove, and deep anesthesia of all the parts were found to exist.

All this is very correct, but here is the interesting fact; on the right side, where the hemianesthesia was total before the accident, insensibility has completely disappeared from the hand, wrist, and lower half of the forearm, sensibility has returned on this right side, in exactly the same region, which is the only part insensible on the left side. In this case we have a transfer from one side to homologous parts on the other side, such as is sometimes obtained by the application of metallic plates or a magnet according to Burq's method. Hence, the transfer of sensation can be produced by a traumatism, exactly as if esthesiogenous agents had been applied; this I had never observed before under such circumstances.

It will probably be very easy for us to obtain a cure in this case; you know that I believe that hysterical contractures or palsies must not be allowed, as far as possible, to remain very long; it is usually very easy to make them disappear when they are of recent occurrence, but it is not so easy when they have lasted for some time. Our patient can be hyptonized; she presents the three stages of major or great hypnotism; we shall probably obtain a cure of this affection during the somnambulistic stage, by suggestion as we have already done in certain cases, although not so often as we would have desired it.

It is natural for us to infer that such a transfer of sensibility, as is observed in the preceding case, is not an anomaly, an exception,but we can find it under analogous circumstances. A few days ago the same occurred in an hystero-epileptic in my service, but I did not bring her before, as she was, according to my view, cured as soon as the hystero-traumatic epilepsy made its appearance. Her history is as follows:

Young lady, aged eighteen years, easily hypnotized, presents all the characters of major hysteria, with a hemianesthesia on the left side. One Sunday, being angry, because the stove of the ward did not give off enough heat, she kicked it vigorously with her left foot, which was in a normal condition at the time. Immediately after she had kicked the stove, however, the left leg and foot became very heavy, accompanied by a sensation of numbness; and when the patient tried to put her slipper on, which had fallen off, she remarked that her foot was hanging and absolutely insensible. The same occurred in this patient as had taken place with the other, when she placed her hand on the motor strap producing paralysis of the hand. The foot in this last case was also completely and deeply anesthetized, with loss of muscular and articular sensation. In this case, a transfer of sensation had also taken place to the right foot, and the inferior part of the leg, which had previously been in a state of hemianesthesia, now presented a normal sensation; this girl was cured of her paralysis by hypnotic suggestion.

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## A Case of Morphine-Poisoning.

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Dr. T. H. Williams, Germantown, Tenn, says; "On December 4, 1888, Mrs. T., æt. 47 years, the wife of a well-to-do mechanic, took 25 grains of morphine sulphate in an attempt at suicide. She ingested the amount at 1 P. M. The husband on his return from work at 6 P. M., found her complaining and unwell. Sent immediately for me, and I arrived there at seven o'clock. She sent the father and son from the room, and told me she had taken three capsules of morphine, packed as hard as she could fill them. I dispatched the husband in haste for apomorphine and atropine, as I had none with me. He was detained one hour in quest of the order.

At 8 P. M. 1-10 gr. atropine sulp., given hypodermically.

At 8.30 P. M. atropine sulp. repeated.

At 9 P. M. 1-20 gr. strychnine sulph., given hypodermically, also amyl nitrite used *pro re nata.*

At 10:30 P. M. the induced current was employed.

At 11 P. M. 1-10 grain atropine sulp. repeated.

At 12 P. M. 1-20 grain strychnine sulp. repeated, nitrit amyl discontinued.

At 4 A. M. 1-10 grain atropine repeated.

At 8 A. M. the antagonism was completed. The patient awoke from her opium sleep rational, but without the memory of what had transpired.

The last insertion of atropine, aided by the synergesic action of the strychnine, passed a little beyond the line of antagonism, as was evidenced by slight spasm of muscless of arm and face, and by the rich scarlet hue of the surface and the tortuous tracts of the arteries of the conjunctiva.In this case these agents sought out an unpromising ground for competition, as it were; the patient was laboring under the effects of cerebral anemia, conjoined with spinal irritation. When I saw her at seven o'clock this lethal agent ingest-

ed showed no disposition to hasten its work. Six hours had elapsed, not a sign of narcotism was present, and it was only after halting, doubting and consideration that the above plan of action was formulated. Her condition was so at variance with her statement. Her mind was as clear as usual, and she took part in such topics as the occasion brought. Aside from a momentary doze, a trembling gait, and a pin-hole pupil, grave doubt as to the patient's veracity would have arisen in my mind, especially when the lapse of time was taken in account since the ingestion of the drug. At half-past eight when the second insertion of atropine was given there was no trace of the former dose visible in the eye or upon the circulation. At nine o'clock a change came over the scene. Not a doubt could be entertained now of the truth of her statement. The effects of the atropine manifested itself in the pupil but for a short while. Somnolence now ensued, followed up, in an incredibly short time, by coma. The pulse became too rapid and intermittent to count, and losing often as much as two rhythmical systoles of the heart's action. At half-past nine the respiratory center failed, after it had undergone a rapid decline for one-half an hour, and the heart took part in the menanced dissolution. Artificial respiration was practiced, and amyl nitrite used to prevent sudden heart failure. The strychnine could not save the respiratory center, it was rapidly overwhelmed. At half-past ten o'clock the induced current was magical in its effects, and was used throughout the restorative efforts. The poles were disposed after the following manner:

The anode at the lowest conjoined root of the phrenic nerve, the cathode three inches below the ensiform cartilage and a little to the left of the median line, as at this point a respiratory impulse could be easily excited. At eleven o'clock when the atropine was renewed, its effects were unmistakable, the pulse fell to 120—the respiration rose to 10 impulses per minute, and could maintain this number for several minutes without faradic interference.

At twelve o'clock the strychnine was also repeated, and as all exigencies seemed met the faradic current alone was used. At 4 A. M. the pupil seemed to be losing the effects of the atropine, and was drawing to a pin-hole condition, when 1-10 grain was repeated, and in one hour its effects were unmistakable the work of antagonizing was drawing rapidly to a close. At eight o'clock the antagonism prevailed, reason returned, and aside from weariness the patient made no complaint and requested a little nourishment.

The morphine was ingested at 1 P. M.; the toxic effect set in at nine o'clock, and this occurred after the second dose of atropine; eight hours elapsed before this agent began its work of death. A faulty assimilation must have been the bar to its entrance. That there exists an antagonism between these agents there cannot be a doubt, but under such conditions as herein related, where so much time had elapsed and every avenue barred and blocked, the race must of necessity be unequal. Yet it will in all probability be held by many that if the two-third grain of atropine employed in the antagonism had been given at the beginning the crisis of narcotism would have been averted, and the center of respiration been so stimulated as to prevent its being overwhelmed by the opium salt.

As to the disposition of this matter grave doubts must be entertained on remembering the fact how rapidly the lethal effects were observable after two doses of the atropine were inserted. Possibly this might have been the design of nature's action to withhold, or detain the drug, admitting only a small quantity at a time, making it possible for the systemic organs to receive and eliminate the poison as rapidly as assimilated. Yet I will insist that while atropine antagonizes opium and its derivative, there are conditions incident to the effects of this narcotism that atropine cannot meet. Nothing can be more plainly exhibited than this fact when the history of successful antagonisms are examined; there being such a preponderance of the one, it does not permit a possibility of an antago-

nistic effect. Had a strict reliance been placed upon a two-fifths gr. of the atropine, the respiratory center would have been so rapidly obtunded by the narcotism as to engender carbonic acid accumulation in the blood, and, by leading to the exclusion of this center, to the extinction of every vital organ and every vital action. The extinction of the respiratory center, the accumulation of carbonic acid, in this as in many other cases, would have led to such a condition as would have proved rapidly fatal. It was at this juncture that the induced current became a conspicuous addendum; it was this agent that caused a smothered-out function to be renewed; it was this that yielded the mastery of the situation, enabled the respiratory system to depurate the blood of its accumulating carbonic acid, and renew its vital powers at every inspiration. There can be no doubt but the strychnine synergising with the atropine rendered its effect more lasting and quickened the antagonism. The rapidly failing circulation in this case was promptly reinstated by the timely use of amyl nitrite; its rapidity and certainty of action on the circulatory system suggested it as the fit agent for this work. When the crisis of the antagonism had been reached, with the aid of this agent and artificial respiration, I was able to tide over till the faradic apparatus came. I am well convinced that without the aid of this device my efforts would have been nil. The exhaustion incident to the effects of a lethal agent is apparent to every observer, and, after a complete antagonism has been secured, the patient too often perishes from sheer exhaus tion, a fact too painfully true. The practice so common in forcing laborious and fatiguing exercise should be deprecated as unrelenting barbarity, whereas the strength should not only be reserved but the body temperature kept up.—*Therapeutic Gazette*, Feb. 15, 1889.

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## A Contribution to the Surgery of the Spine.

Dr. Robert Abbe, of the *Med. Record*, Feb. 9, says: The surgery in the spine is one of the new chapters soon to be written, from which much may be expected. As yet, however, so little work has been done or published that statistical tables upon the subject are untimely and of little profit.

It should be a surgical axiom that every case of operative interference should be published.

Extra-Dural Tumor of Spine—Paraplegia Complete—Operation—Recovery.—The first case is a man aged 22 years, who was in excellent health to January of last year, when pain in his back was his earliest symptom. He had no other sign when admitted to St. Luke's Hospital, in March following. The spine was flexible and without deformity. A slight fulness was thought present in the soft parts of the right of the spines of the ninth and tenth dorsal verebræ, where tenderness on pressure and some pain on motion were apparent.

Dr. Kinnicutt, under whose care he came, treated him by iodide of potash, quinine, blister and other remedies, though being unable to elicit any history of syphilis or tuberculosis, and quite soon diagnosed a tumor of the spine. Four weeks later the swelling of the soft parts had markedly increased, so as to make an induration of the parts two inches wide by three inches along the spine. Tactile sensibility now began to be disturbed in both legs, and then muscular power began to go. At the same time there was a line of hyperesthesia around the abdomen which marked the limit betweeen the anesthesia of the legs and the normal abdominal skin. Two weeks later he could not stand without support. After this his power in the legs rapidly disappeared. He had annoying, uncontrollable twitchings of the legs, which were cyanotic when allowed to depend from the bed. The spine became rigid and very painful. The leg anesthetic; abdomen tender and hyperesthetic. A wasting hectic had set in. May 10, he was growing rapidly weaker; had constant intercostal pain in the lower ribs, with girdle pains about the limiting line of disease. There was involuntary muscular twitching, with increasing

incontinence of urine and feces. By May 25, affairs had gone from bad to worse, the man lay in an apathetic condition, suffering from the slighest motion of the spine, and with girdle and intercostal pains unabated. The presence of an active hectic led one to fear a serious general infection. A final consultation was held May 29, at which Drs. Seguin, Weir, Peters, Kinnicut, Bull, Ridlon, Murray, Shaffer, and myself were present. Previous explorations of the swelling had shown nothing, but to-day a drop of thick, shredy pus was obtained, and on the following day I operated.

May 26.—Under ether, an incision was made, six inches long, close to the spines, from the sixth to the twelfth dorsal. The laminæ being uncovered, some thick broken-down tissue and pus were scraped away. The laminæ were already bare of periosteum, and the spines and laminæ of the eighth,ninth and tenth were cut away by rongeurs. This revealed a dense mass of tissue and desiccated pus occupying the entire caliber of the canal, and extending up and down in all two and a half inches. This compressed the cord tightly against the anterior wall. It was rapidly and thoroughly removed by a sharp Volckman spoon, until sound bleeding tissue was left on every side. The cord was not seen to pulsate. The cavity was packed with iodoform gauze—after bichloride irrigation—and an antiseptic dressing and plaster-of-Paris jacket applied.

On the eighth day, sensation began to return. In the fourth week he began to move his left leg and the toes of the right. His fever rapidly left. Pain disappeared, and appetite returned. In six weeks he moved both legs well. In ten weeks he went about in a rolling-chair. The third month, walked with crutches. At four and a half months walked pushing a chair.

It is now eight months, and you see he walks well without support, is stout and hearty, and since the operation absolutely without fever, or evidence of tuberculosis. The tumor tissue was examined for bacilli, but nothing but cellular tumor elements and pus found.

The clinical evidence leads me to believe the neoplasm began between the theca and the posterior arch of the vertebræ, and then broke down, involving the bone. The bodies of the vertebræ are perfectly sound.

The second patient is one whose malady is more complicated, whose recovery is not yet so brilliant, but whose operation stands, as yet, quite unique. Intractable brachial neuralgia, nerve stretching, amputation, and finally, division of posterior roots of the sixth, seventh, and eighth cervical. Improvement.

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## ORIGINAL ARTICLES.

### THE DIAGNOSIS OF PREGNANCY BY EXTERNAL MEANS.

BY E. S. MCKEE, M. D., CINCINNATI.

Among the many changes of fashion, some for better some for worse, which pervade the medical world, is a tendency to depend more and more on the external methods of diagnosing the pregnant state. This is a question of more importance and practicability than very many which are occupying so much attention from the profession.

This great country of ours is behind in this respect and it is in the immense hospitals of Dublin, Germany, and of France where we find that this art is best taught and practiced. The tactus eruditus is as capable of cultivation in this direction as any other and will yield the cultivator as rich a harvest. Experience, in this direction as elsewhere, is an excellent teacher.

"He who does not examine a woman does not infect her" is a maxim of Crede. In his recent work this authority teaches that woman in labor and in the lying-in-state is diseased "only through infection from fresh wounds.' Solutions of continuity are always or nearly always connected with child-birth. The most serious of these are generally made from some artificial assistance to parturition. Yet from the most careful digital examination we may have some wounds and therefore should limit

them to the fewest number possible, or dispense with them altogether. We may in many cases be safe in doing this when we understand the external means better. The digital examination is omitted altogether for weeks together in the lying-in hospital in Leipsic especially if the health of those confined is not the best, and the results are the most favorable. In labor the external examination should be given precedence and the internal employed only when demanded by the conditions of the case, for the surest prophylaxis from infection lies in the total abstinence from vaginal examination. But we must learn exactly the position of the child and the stage of labor. To accomplish this we must use wisely and scientifically all the external means for diagnosis.

Inspection from the natural order of things is one of the first methods at our command. We are often able to see a peculiar brownish pigmentation called *la masque* or chloasm. The breasts reveal the pigmented areola or the tubercles of Montgomery. The size of the abdomen and the brown line extending down the center are to be noted. The umbilical cicatrix, depressed, obliterated or protruding shows to some degree the stage of pregnancy. A transverse and distinct furrow has been pointed out by Bandl. It lies about midway between the umbilicus and the pubes. This occurs when an abnormal obstacle presents itself to the child's expulsion. The linea alba of recent date is of a livid blue or rosy-red while old ones are white and resemble old cicatrices. Movements of the abdominal wall from activity of the fetus are often noticed, also the uterus projecting through between the borders of the recti muscles when the patient lies in bed. The stage of pregnancy can often be determined by the height of the uterus with reference to the umbilicus, though many conditions may detract from the value of this symptom. In a multipara the breasts are flaccid and pendulous and the nipple enlarged and withered. The abdominal walls are flabby, often look withered and discolored and can easily be raised into folds and sometimes the skin is pendulous and pouch-like over the pubes. Time tends to dispel these signs.

Palpation of the abdomen in pregnancy not only proves the presence of the fetus in uteri but the number of feti. This method was first practiced by Mercurius Scipio in 1601. In palpating a woman we should be careful to use the greatest possible gentleness as force frustrates the object by causing the woman to be afraid of us and to render the muscles of her abdomen hard and tense. The examination should not be superficial but systematic, scientific and accurate manipulation. By it you are able in most cases to ascertain the existence of pregnancy, the position in utero, approximate size, general conditions of the fetus and the relations of the uterus. We are enabled by the information thus gained to, in many cases, readily rectify mal-position, to facilitate expulsion of the placenta, to prevent or arrest post-partum hemorrhage. Abnormalities in form and texture of the upper part of the uterus and its appendages and the abdomen can be detected. To palpate properly the thighs should be flexed partly on the abdomen with about 20 inches between them, the rectum and bladder empty, and the decubitus as horizontal as possible. Lay one hand, warm on the hypogastrium of the patient so as to become accustomed to the contractions of the muscle. In a short time this disappears and we can freely explore and outline the uterus. If the muscles are still too firm we can gain time by talking to the patient, and thus taking her attention from herself and gaining relaxation. We can get the size of the uterus by plunging the hand deeply into the region of the fundus and grasping it.

By making alternate pressure we can displace the solid body and thus produce ballotment. If the shock of this movement occurs of itself it is termed fetal movement. These movements are also sometimes detected by auscultation. We can determine the presentation and position. The head is a hard, round, bony, partially displaceable body, more or less perceptably separated from the trunk by a depression of the neck. I have not met

with the parchment like, crackling sensation found under favorable circumstances by firm pressure on the head. The nates also form a hard, round and movable mass, but the distinctness of these characteristics is less marked than in the head. In the normal position of the fetus the feet are smaller and more prominent. They may be displaced, from their position in the liquor amnii, with the utmost facility by one hand. They do not return with that quick rebound which, in the case of the head, gives the sensation of ballotment. The heel, or sharp maleolus, can be felt sometimes if the abdominal walls are thin and the conditions for palpation favorable. The back is found between the head and the breech, and the fetus being curved on itself, the back is more prominent on one side than on the other. The back furnishes a more firm resistence than the front, and on the front we find movable parts.

If the abdominal walls are thick and the amniotic fluid abundant, and it is difficult to decide the points of diagnosis, it is a good plan to seize the fundus of the uterus in the hand and force it down against the symphisis pubis and thus bring the back more in the range of palpation. When the head is flexed, as it must necessarily be for engagement, there must be a depression of the occipital protuberance on the one side and an elevation of the forehead on the other. The side which offers the least resistence will correspond to the occiput and the other to the forehead. This gives us the direction of the back, which will be on the side opposite to the forehead. Failing to find the head in the superior strait, we look elsewhere. It may be in the iliac fossæ. In the latter case we have only to slide the hands a little to one side. If above the umbilicus, we find it in much the same way, and distinguish it by its roundness, resistence, and mobility, which prevent our mistaking it for anything else. The absence of the furrow or depression of the neck is an item of importance in searching for the breech. The anterior shoulder, if palpable, is reliable evidence, as it is always situated in the same lateral half of the pelvis as the occiput. The head, if engaged, forms a prominence over the superior strait, lying on the left side in the first position, and on the right in the second.

Abdominal ballotment may be made with one or both hands. It is one of the most reliable symptoms of pregnancy, yet it has been found in a woman having a multilocular fibroid ovarian tumor. It can only be obtained at the fourth month, and is especially useful at the sixth and seventh months. Hydramnion and multiple pregnancy prevent its detection. The books describe it as the sensation of a piece of ice floating in a vessel of water and striking against the sides. The placenta can sometimes be detected by palpation when it is placed anteriorly. It is recognized as a flimsy or fleshy mass, which raises the palpating fingers from the fetal surface.

The death of the fetus can often, though not always, be determined by palpation. The hand finds a peculiar flabby and compressible condition of the abdomen contrasting sharply with its former firm and elastic feel, and motion is not distinguishable. The body remains passive in any position in may be pushed.

By means of the calipers we can measure the fetus, applying them to the head and to the breech. This gives one-half the length of the fetus, thus giving the age and the size of the uterus. The cord has been made out passing over the back. In the diagnosis of twin pregnancy by palpation we find two absolutely identical parts as heads, three larger parts may be made out, or two separated so much as to make it impossible for them to belong to the same fetus.

Intermittent uterine contractions first brought to our notice by Braxton Hicks are an almost infallible sign peculiar to the pregnant uterus. It is constant, not simulated by any other sign, and one of the most valuable means of obstetrical diagnosis. They occur every 5-10 minutes and are present whether the fetus is alive or dead. The detection of abdominal tumors, uterine fibroids and ovarian cysts is quite possible by palpation during pregnancy and this detection is of the greatest importance.

Fetal movements may be sensible or visible. We cannot always rely on the statements of the mothers, and it is necessary that we appreciate these ourselves. If there is sufficient amniotic fluid to allow a free movement, the fetal movements are free and active. If too much liquor amnii is present, they are rapid and flighty. As a rule the size of the fetus and the amount of the liquor amnii are in inverse proportions.

Extra-uterine fetation can be detected only when a distinct lateral tumor is palpable, qnite disconnected from the uterus. Palpation ought to be practiced after auscultation because manipulation disturbs the mother and child, increases the heart beat, and modifies the results gained by auscultation.

Percussion is of the least value of the means of external diagnosis. The amount of distention of the bladder is the most important of the things learned. Light percussion sometimes produces a tympanitic sound if the intestines get in front of the uterus. By using more force, we can bring out the dull sound of the pregnant uterus. It has been claimed that pregnancy can be made out in the second month by percussion, but this is hardly possible.

Auscultation is one of the most important of the means of diagnosis made externally, but is too often relied on to the exclusion of other means. Other methods afford valuable information, and the examination to be accurate and thorough should include all four. The first advocate was Mayer, of Lusanne, the first pupil of Keraradic. DePaul enlarged its scope, and after some opposition it spread through Germany, France and England. The stethoscope in use should be of medium length and cover considerable surface. It should be held perpendicular and kept in position by the head of the examiner avoiding all contact with the hand or the clothing. It is useful but by no means indispensible. It is claimed that the point of maximum intensity can be more accurately ascertained by this instrument than the ear unaided, but with practice the ear can beoome wonderfully proficient in this respect. For myself, I prefer the ear in most cases. The stethoscope is probably better to get at the uterus when just above the superior strait. Auscultation enables us to hear the umbilical or funic murmur, the placental murmur, the pulsations of the abdominal aorta and the gurgling noises caused by the fluids and air in the intestines. Occasionally there may be heard a splashing noise due to the movements of the fetus in the liquor amnii, the fetal shock, muscular subsurrus, sound due to the friction of the uterus against the abdominal walls, others by the impact of the fetal limbs against the uterine walls, and the most important of all the fetal heart. When plainly heard, this proves to us not only the presence of the fetus, but also the fact that it is healthy and strong. We can with reasonable assurance say, when we fail to find the fetal heart, having always found it before that the child is dead.

Twin and triple pregnancies can often be diagnosed by auscultation. In twin pregnancies there are two points of maximum intensity, then a point of minimum intensity which should augment as we approach the respective points where the heart is heard plainest. The two hearts must have a different rhythm. If the sounds do not emanate from the same heart, they are plainly audible at several different points, and at intervening points they are not audible or scarcely so.

The fetal heart is first heard at the 18th or 20th week. It is reported heard as early as from the 12th to the 14th week, but this is very rare. The auscultator should be careful not to listen with the head lower than the body, for he thus causes an increase in his cerebral circulation and hinders hearing. Schroeder's statement that the fetal heart can always be made out in a healthy mother and child is rather too strong, with a moderate amount of practice the fetal heart can be heard in almost every instance. The pulsations are from 120 to 160 per minute. They increase on fetal activity and with the temperature of the mother. If the maternal temperature rises to 102 degrees, the fetal pulsation is much accelerated, and if above

104 degrees the fetus usually dies. There seems to be no definite relation between the frequency of the maternal heart beat and the fetal. The intensity of the fetal pulsation varies with the fetal development, the thickness of the abdominal wall, the quantity of the amniotic fluid and the position of the fetus. If the maternal pulsation is much accelerated, the difference of intensity serves to differentiate between the two.

The diagnosis of the sex of the child by the fetal heart beats was a subject which at first gave much promise. Investigation, that destroyer of new theories, proved disastrous. The number of pulsations per minute will come nearer determining the weight of the child than its sex. We can doubtless say that in the majority of cases where the pulsations are less than 130 per minute will be males, and the majority of those where the pulsations exceed 130 will prove females. This comes from the fact that males are larger and heavier in general than females, and the pulsations in larger animals are less frequent than in smaller ones. It has also been found that the pulsations in the males are fewer per pound than in the females. The pulse has been found to vary as much as 15 to 20 beats in consecutive minutes in the latter months of pregnancy. Increased size, hardness and firmness of the craniæ of males as compared to females probably offers more chance of determining the sex than the number of pulsations,but here also exceptions are numerous.

The uterine souffle is not a certain sign of pregnancy, but one of considerable probability. It is sometimes palpable in the form of a distinct thrill in the immediate vicinity of the umbilicus. The umbilical souffle is also a sign heard by auscultation.

Presentation and position are diagnosed by auscultation. DePaul says that the heart is situated nearer the head than the breech. Matthews, Duncan and Ribemont deny that there is any difference. The low position of the heart in cephalic versions is probably due to the engagement of the head and the subsequent sinking of the trunk. In pelvic presentations the breech does not become engaged, and the heart is more readily found high in the uterus. Chantreul and Tarnier also disbelieve in the difference in the heart beat in the cephalic and pelvic presentations. In face representations we have the heart sounds transmitted through the cardiac region of the fetus, the maximum of intensity being at the right, directly opposite to where it should be in head presentations. The head failing to engage, the heart sounds will be heard higher in the uterine cavity. The disagreement between auscultation and palpation will probably call the attention of the examiner to the possibility of a face presentation. In the diagnosis of transverse positions auscultation is much inferior to palpation. It may be stated in a general was that in the cardinal positions the maximum of the heart-sounds will correspond to one of the four segments which is made by drawing a line from the ensiform cartilage to the symphsis pubis intersected by a line which divides the uterus into two equal parts. This line should not be drawn through the umbilicus, for this is a most migratory organ.

Knowledge of the presentation and position of the child before labor has advanced too far, may enable the accoucher to change a transverse or breech position or make a normal labor.

The advantages gained by the use of the external means in the diagnosis of pregnancy are numerous and valuable, and he who does not avail himself of them lays himself subject to censure.

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## SENILE HYPERTROPHY OF THE PROSTATE WITH OBSTRUCTION; CYSTITIS; DOUBLE PYELONEPHRITIS; PERINEPHRITIC ABSCESS; PRIMARY TUBERCULAR KIDNEY; ACUTE BRONCHITIS, PERITONITIS—DEATH.

BY BRANSFORD LEWIS, M. D.

Read before the Medical Press Association.

Phil. S., æt. 72 years, German, widower,

shoemaker, was admitted into City Hospital Feb. 12, 1889. No hereditary predisposition to disease was elicited from patient. He had suffered from small-pox and rheumatism at some previous time. No history of gonorrhea or syphilis. He was a moderate drinker of beer.

Prior to last New Years, the patient had enjoyed good health, but on that day, after imbibing too much wine, he found that he could not retain his urine, it would dribble away from him every once in a while, and when he would attempt to urinate voluntarily the stream could not be projected away from him with its accustomed force. Straining was necessary too for its voidance. There was no pain, however.

Since that time he found it necessary to get up four or five times each night to pass water.

Two weeks before his entrance into the hospital a harassing cough developed, and with much difficulty, he expectorated a muco-purulent sputum, at the same time he was feverish and thisty. One week after this he first noticed swelling of both feet, which gradually extended up to the knees; this edema remained up to the time of his death.

His condition when first examined was as follows:

Weakness and emaciation were marked features, emphasizing the other signs of old age present. On account of the dyspnea and cough produced by the accumulation of bronchial secretions he was unable to obtain any rest. Urine was alkaline, containing a great deal of mucus, pus and albumen. No casts were found, although several microscopical examinations were made of the urinary sediment. Examination of the viscera disclosed the presence of the usual signs of acute bronchitis. On feeling through the rectum a greatly enlarged prostate was found.

On account of the extreme debility and low condition no operative procedures could be thought of. His bladder was evacuated with the catheter, and the rest of the treatment was only palliative. A few hours before death it was noticed that on the slightest touch of the abdomen, the patient evinced much suffering, the belly was swollen and tympanitic, so it was thought that peritonitis had been superadded to the trouble alteady existing—from what cause could not be determined.

The autopsy gave evidence of the affection of the bronchi spoken of. The intestines in the neighborhood of the right hypochondriac region were congested and agglutinated to each other by layers of plastic lymph, and on separating them pus in moderate quantity oozed up between the coils, seeming to come from the region of the right kidney, and on tearing this organ from its attachments an abscess containing 50 cc. of pus was found behind it.

The lelt kidney was rather pale in color, showed some diminution in the relative thickness of the cortex. The consistence was somewhat firmer than usual. Its pelvis was not dilated, but was inflamed and filled with a purulent mucilaginous fluid and debris of inflammatory products.

The specimens presented are, the right kidney, bladder, prostate and urethra.

You notice that the renal capsule on the posterior wall is much thickened, and has come off with some difficulty. This formed the anterior wall of the pus cavity alluded to. But connecting this cavity with the pelvis of the kidney, and at the same time showing its point of origin, is observed a canal, which also contained pus when opened. A softened and broken-down portion of the kidney structure in this neighborhood further confirms the supposition that pus found its way by extension of the suppurative process, from the pelvis through the kidney tissue into the perineperitic space, afterward perforating the peritoneum and causing general peritonitis.

On stripping the anterior wall of the kidney of its capsule, which, by the way, was effected with some difficulty, a peculiar and interesting condition became evident. Its whole surface on this side is studded with what might at first be taken for a pustular eruption, but incision gives escape to no pus, in fact, it determines that they are little nod-

ules of cheesy-looking material, of a nearly uniform size—a little larger than a pin-head, each having an inflammatory area about it. On dividing the kidney itself, they are found to be deposited in both cortex and medulla, but are most numerous in the anterior half of the organ. Inflammation of the pelvic mucous membrane is evidenced as well here as in the other kidney. Both ureters are also inflamed.

The bladder is dilated, its walls are much thickened, and traversed on the inside by large *columnæ vesicæ*, the signs of the labor and strength that have been necessary for the expulsion of the urine. The *bas fond* is very much deepened, dipping down nearly two inches below the urethral orifice. Projecting from the lower right-hand angle of this orifice, pointing upward, backward, and to the left, so as to overlap the opening is a semi-pedunculated nodule, the size of a very large pea. It is composed of prostatic tissue and is so placed as to form an almost water-tight valve, preventing the escape of urine from the bladder cavity, its action in this respect being only increased by straining and efforts at evacuation. In addition to this, an obstructing prostatic bar is well shown in the specimen. It stretches across the lower part of the bladder, forming the anterior wall of the deep *bas fond.*

On pressing aside the nodule valve and following, with a probe, the prostatic urethra we find that the normal relations are entirely changed, the canal instead of passing forward through the prostate to the membranous urethra, reaches that portion by the circuitous route of an abrupt descent toward the base of the prostate, then curves around forward and upward, making a long half-circle before it reaches the apex or the prostate.

This is a beautiful example of the long prostate curve that must be remembered in passing a catheter on such a patient.

The prostate itself, as you see, is much hypertrophied in all of its parts. This too, is an example of the fibrous change that frequently occurs coincidently with the hypertrophy, and which Reginald Harrison says, especially predisposed to obstructive alterations in the prostate. All hypertrophied prostates do not give rise to obstruction. It is only when this enlargment, which is a conservative effort of nature to make up by quantity what old age fails to furnish in quality, sends out these obstructive processes or nodules. The hypertrophied third lobe is the same thing, it is not present in normal prostates, but when the morbid growth takes place it develops and is liable to cause obstruction.

Were it not for the condition of the kidneys and pelvis, this case would be one to which the operation of suprapubic prostatectomy would have been well adapted. I should prefer the supra-pubic method here, because in the first place, the bladder was sufficiently distensible to push the peritoneum out of harms's way, and secondly, because the perineal distance—the distance between the perineum and the point of obstruction—was probably too great to be comfortably reached by that route. And, again, one could effect the procedure indicated here, that of excision of the valvular nodule, and division of the prostatic bar, in a more intelligent manner than by the other method.

I would interpret the signs presented by the autopsy in connection with the history to mean the following:

The old man, with his primary tuberculous deposit in the kidney, and an hypertrophied prostate, was able to get along very well until the time of the indiscretion in the use of stimulants. This caused congestion of the prostatic plexus, with sudden enlargement of the prostate already tending toward obstruction, if not actually doing so. The inflammation from retained and decomposed urine soon followed and traveled up the ureter to the pelvis of the kidneys, extending from the right one to the peri-renal space, as suggested before.

I have not been able to make a microscopical examination of the kidney tissue, but I think there was interstitial nephritis present in both organs.

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SATURDAY, MARCH 9, 1889.

## THE INDISCRIMINATE USE OF THE BROMIDES IN DISORDERS OF THE NERVOUS SYSTEM.

The above is the title of a paper read recently by Justin E. Emerson, A. M. M. D., before the Detroit Academy of Medicine.

In the course of it he says:

"During the years in which the writer was a physician in the Asylum for the Insane at Kalamazoo, it was the constant experience of the medical officers of that institution that nearly all patients admitted there, who had previously been under medical treatment, were at the time of their admission saturated with the bromides.

It mattered little what form of mental disturbance was present. The sufferer from melancholia, hysteria, epilepsy or general paresis all alike poisoned the air with their fetid bromidised breath. In more than one case bromidism had been pushed to a point where the person was covered with boils and unhealthy ulcerations.

Since engaging in private practice it has been my experience to observe how constantly the bromides are prescribed for every form of disorder of the nervous system, seemingly as a matter of course.

It would seem to be forgotten that bromides are rarely, if ever, directly curative, and that in a very large proportion of cases in which they are palliative of some of the symptoms, they are by their physiological action antagonistic to reparative processes, if given continuously in full doses for any length of time.

The advantage gained by quieting nervous excitement is often offset by the fact that we thereby obscure our view of the case and lose sight of underlying causes of the nervous perturbation. We may thus keep our patient in a continuous state of bromidical depression and retard recovery, not alone by the disastrous effects the drug may have on tissue repair, but also by obscuring our knowledge of the patient's true condition."

No medicine is probably prescribed to-day with as little thought as *the bromides* not even quinine. When we come to reflect a moment does it not seem surprising that this carelessness should be so prevalent? That it is there is no question. The writer of the paper is fully warranted in the following observations:

"The point which I desire to press upon you this evening is that the bromides are not a panacea for all nervous disorders, which you may prescribe at your will with no fear of injury to your patient.

This idea is not restricted to the general practitioner, indeed, if I may credit the statements of patients who have been treated by some of our most eminent specialists; the specialist himself is the chief of sinners and entertains a conception of the utility of the bromides not unlike that above described."

The abuse of the bromides by the profession is more due to carelessness, and I think we may safely say, laziness than to ignorance. For example, how frequently have most of us seen a case of epilepsy kept along on the bromides day after day, week after week, month after month, an unvarying dose three times a day; where the practitioner who had prescribed it would perhaps find difficulty in telling how much of the medicine was being taken or for how long a time it had been continued; no record of how often or when the attacks occur; no satisfactory account of the patients dietary or other habits. Have you not prescribed for a *nervous* woman to have her soon return to you with the bottle informing you that you had given her bromide, protesting that it would do her no good, that every physician she had been to see had simply, like yourself, given her bromide?

Any body of medical men would perhaps find difficulty in agreeing exactly about the legitimate uses, proper doses, etc., of these remedies. But with a free and full confession on all hands they would have no difficulty in establishing the fact of great abuses, due largely to carelessness.

A simple rule if observed carefully will aid us greatly in discriminating when to use the bromides: Never give them without some reason for doing so. The existence of epilepsy, of *nervousness* in a female, of headache, or of mania a potu are not reasons for so doing.

F. R. F.

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## Optic Neuritis Due to Menstrual Disturbance.

Some of our best authorities hold that disturbances of the menstrual function, in a minor degree, bear a causal relation to inflammation of the optic nerve. Unfortunately we have at present no method of determining positively that this relation exists. Many believe that when the two conditions are found in the same patient they are merely coincident. I am of the opinion that if disorders of menstruation act at all in the production of optic neuritis, it is only through its depressing effect upon the general system.

In something more than eleven thousand cases of eye diseases reported by two of the leading hospitals in New York there were 125 classed as diseases of the optic nerve.

A liberal estimate will attribute fully 95 of these cases to intra cranial disease; 10 to amblyopia ex abusa; and 10 to nephritis. This leaves 10 cases to local, lesions in the orbit, lead poisoning, syphilis, malaria and other poisons, errors of refraction (?) menstrual disorders (?) and some other rare causes. From this it will be seen that as a possible cause, menstrual troubles must take a minor place. Now when I take in consideration the great frequency of amenorrhea, dysmenorrhea and menorrhagia I am forced to conclude that when optic neuritis occurs in conjunction with these troubles some peculiar condition of the patient is present, that is to be found in a very limited number of cases. Is it not more rational to suppose that the disease of the eye and thah of the uterus are due to a common cause?

In a recent issue of the *Cin. Lancet-Clinic*, Dr. DeBeck reports six cases of optic neuritis occurring in women either during or soon after marked menstrual disturbances. He adds, 'This association is too striking to be attributed merely to coincidence, and this series alone would warrant the assumption that this trouble is the causal factor, even if others had not called attention to this same relation."

Continuing, he says: "These cases represent very fairly the class coming under this head. Only one important group is lacking. That is the group of cases in which the neuritis comes on after a sudden suppression of the menses. If now we review the entire series of cases in which optic neuritis ensues, as the result of some menstrual anomaly, we find that they naturally arrange themselves into several groups, almost every variety of menstrual disturbance being represented by a series of observed cases.

*a.* Cases which occur in young girls, where the menses fail to appear.

*b.* Cases which occur in young women with tardy, scanty and irregular menstruation.

*c.* Casses occurring in women where amenorrhea has come on.

*d.* Cases occurring immediately after the sudden suppression of the menses from cold, fright or any cause.

*e.* Cases occurring from dysmenorrhea.

*f.* Cases occurring from metaorrhagia.

*g.* A small group of cases in which chronic metritis had led to early atrophic changes in the uterus, scanty, irregular menstruation and sterility."

Dr. DeBeck is to be congratulated upon the splendid results obtained in his six cases; not by correcting the menstrual disorder, but by the application of leeches to the region of the eye, the administration internally of phosphorus, quinine, iron and especially strychnia. There is no principle more thoroughly established in medicine than that in treating a serious local affection the general system

should be carefully looked after and all local troubles likewise corrected.

### Medical Legislation.

A bill is pending in the Wisconsin legislature the purport of which is to place the power to grant license to practice medicine in that state in the hands of a State Board of Examiners. The decision of the Supreme Court of the United States that snch a law is constitutional has given quite an impetus to the cause of a higher standard of medical education. There are many practising now in every state in the Union who are not at all competent, and at present there is no way to prevent them from continuing, but the profession now has the power to at least lessen the number of incompetents that is annually being added to the lists.

### Paralysis from Quinine.

Dr. H. C. Coe, of New York, reports a case in the *Med. Standard*, in which he removed a scirrhus from the left breast of a woman and the wound healed by granulation. At the end of the third week the patient had a temperature of 100°, and quinine was given in doses of five grains four times a day with a drachm of dilute hydrobromic acid. On the fourth day of the use of the quinine, internal strabismus and ptosis of the left eye developed. The patient stated that on a previous occasion this result followed the use of quinine in fifteen grain doses daily. In this instance the use of the drug was discontinued and the paralysis disappeared.

The practice of prescribing twenty grains or more of quinine to be continued daily for low forms of fever is not as popular in the West as it was formerly. I believe that it may be accepted as a rule that unless the good effects of such doses are apparent inside of forty-eight hours the use of the drug should be discontiuued.

The *Physician and Surgeon* says that a very certain test of the injury which tobacco produces is that it destroys the desire for the society of women.

### NEWS ITEMS.

Dr. Keyser, of Philadelphia, has a paper in the *Med. Times* in which he discusses the various theories of the etiology of sympathetic ophthalmia. He refers to two cases occurring in his own practice, of which he says: "In examining these cases critically, it will be seen that the sympathetic affection was created in each case by a drawing on the iris at its ciliary attachment." In other words, that the inflammation was excited in the sound eye by reflex action. In speaking of the microbe theory he says: "Can a microbe have sense to know that it must turn from a straight and clear path, attacking nothing on its way, not stopping until it has reached a certain goal for which it started on its travels?"

Dr. Hoyt, of Grand Rapids, Mich., advocates the removal of moles from the face by the use of the electro-cautery. He gives his method of procedure in the *Columbus Med. Jour.* He transfixes the base of the growth (which has been previously cocanized) with the electro-cautery needle, and then completes the current, using eight milliamperes. He then transfixes at right angles, and if the tumor be large, at various angles till he has pretty well destroyed its base. The advantages claimed are, "no pain, no hemorrhage, no sore or raw spot, and, hence, no discharge; and the scar, if any there be, is the least possible." This plan is good enough when the patient dreads the knife, but if he does not I am inclined to think the simplest method of disposing of such tumors is to remove them by an eliptical incision and bring the edges of the wound together with small suture or with adhesive plaster. There will be scarcely a trace of the scar left.

It is a well-known fact that larger doses of medicine are tolerated in some cases of illness than would be by the ame patient in a

state of health. Dr. Conwell, of Oakdale, Neb., reports a case in the *Omaha Clinic*, in which a man took a large quantity of morphine. When first seen his respiration was six per minute, pulse weak and extremely low, and pupils contracted to near pin points. One-fiftieth of a grain of atropia was given hypodermically every ten or fifteen minutes till nine doses were given. At the end of two hours the patient could speak, and he was given large quantities of black coffee. One-sixth of a grain of atropia, given hypodermically in broken doses, as this was, would not likely have produced death had the patient been in health, but it would in all probability give rise to very alarming symptoms. Dr. Conwell's patient recovered.

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Dr. Lewis A. Stimson, of New York, recommends the hypodermic use of one-one-hundredth to one-seventy-fifth of a grain of sulphate of atropia previous to the administration of ether, to sustain the action of the heart. He has used it for this purpose during the past five or six years with good success.

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A London correspondent writes the *Jour. of the A. M. A.* that bee stings are now recommended as a somewhat heroic treatment for rheumatism. It is stated that an average of two hundred and twenty-five and four-tenths stings suffice to effect a cure in any one case. Truly the remedy in this case is worse than the disease.

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Dr. Horatio R. Storer, Chairman of the Committee of Arrangements of the A. M. A., for the meeting to be held at Newport, R. I., June 25, 1889, in closing his official notice, says:

The ancient name of Newport Island was "Aquidneck," or "The Isle of Peace." In view of this, it is to be hoped that the wisdom of the Association in turning away, the present year, from the mutual rivalries and the internal dissensions inseparable from the great centers of practice and of medical education, to what is virtually neutral ground, may be made manifest, and that the coming session may prove one of the largest, most harmonious, most scientific, and best contented meetings that has yet been held.

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A Philadelphia man had one of his arms so torn by the explosion of a gun (*Med. Times*) as to necessitate amputation. The stump did not heal, and some time afterward he applied to Prof. Pancount who found a foreign body at the bottom of the sinus in the stump and on cutting it out it was seen to be a piece of the gun barrel, two inches long and one inch in width.

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At a recent meeting of the Practitioners' Society, of New York, Dr. Robert F. Weir presented a phosphatic calculus removed by suprapubic section from a man seventy-nine years of age. The *Med. Rec.* gives the following special points of interest in the case: 1. The successful result of a cutting operation at an advanced age. 2. The ease which the clawing or rake-like action of the fingers gives in drawing the subperitoneal fat from behind the pubis upward, and in this way quickly and safely exposing the bladder without hemorrhage, after splitting the recti muscles in the median line, instead of cutting or tearing through the tissue. 3. That a drainage tube was used with lateral decubitus for three days, and that the bladder opening closed in twelve days. 4. That iodoform mania resulted from the packing of the wound with a ten per cent gauze.

It may be added that litholapaxy was abandoned after an ineffectual trial with the lithotrite, on account of a large pedunculated median prostate hypertrophy. The calculus weighed one hundred and eighty grains.

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Prof. Charcot, of Paris, recommends that patients suffering from locomotor ataxia be suspended by the heels several times each day. He believes that he has seen marked improvement from this treatment in a number of cases that had been given up as hopeless. In such cases it is perfectly legitimate to try any method of treatment that does not

subject the patient to much danger. Favorable results should not be reported till time has proven them to be correct.

## SELECTIONS.

### THE BATH.

BY WINSLOW ANDERSON, M. D.

Assistant to the Chair of Materia Medica and Medical Chemistry, University of California, Medical Department.

(From unpublished MS. on "Mineral and Thermal Springs of California.")

Bathing for the treatment of disease as well as for health and for luxury, dates back to the earliest times in the existence of the human race. The most ancient historical accounts as well as primeval mythologies speak of the bath as of divine origin.

The Egyptians practiced bathing as a religious rite; and throughout antiquity purification of the body was supposed to induce moral purity as well. We find that Moses made the bath a religious ordinance, partly, no doubt, the better to cure the many cutaneous diseases so prevalent among his people. In Palestine and many of the larger eastern cities luxurious bathing facilities were indulged in by the weathy people of that day.

Homer frequently speaks of bathing among the early Greeks. It was indispensable in the preparation for sacrifice, for the reception of oracles and for the holy marriages.

Rome, at the zenith of her power, possessed some of the finest edifices for bathing that the world has even seen. The accommodations were perfect, scarcely equalled today, and the baths were taken warm or hot. After one of these luxurious baths, the Romans had their bodies annointed with perfumed oils; then some gentle exercise, such as games, etc., was indulged in, and lastly, the body was washed and dried and perfumed with costly essence.

The Arabians and Mohammedans adopted bathing early. Islam enjoined on the faithful corporal purity and prescribed daily ablutions.

During the crusades the Europeans first felt the great necessity for frequent bathing and medicated baths, as leprosy and other skin diseases were brought home by the wanderers.

Bathing is recognized to-day as a very important agent in the preservation and restoration of health. Besides promoting the healthy and regular exudation and secretion of the sudoriferous and cutaneous glands, bathing assists materially in absorbing and removing pathological products in the skin and in and around the joints.

The bath may be classified according to the medium in which the body is immersed or surrounded, its temperature, etc. Thus we have the cold bath with a temperature from 40° to 60° Fahr.; the tepid, 85° to 95° F.; the warm, from 95° to 100° F., and the hot bath from 100° to 106°, 110° F., and in the case of hot mud-baths the temperature may be as high as 140° Fahr. Then there are the sitz bath, hand and foot bath, half and whole bath; the river, plunge, slipper, shower, dropping and douche bath; mineral water bath, saline, sea, sulphur, sand, earth and mud or moor baths; vapor baths, hot and cold; steam baths, hot and cold; compressed air bath, medicated bath, etc. This latter, the medicated bath, may be practiced successfully in a small room or in a box bath specially constructed for the purpose. Here iodine, sulphur or other fumes are allowed to surround the body, while the head is kept free. In medicated baths the water may be impregnated with sodium chloride, nitric acid, chloride of lime, corrosive sublimate, etc.

Vegetable medicated baths may be composed of wine or vinegar; solutions of essential oils; fixed oils; infusions of willow, oak or peruvian barks.

Animal medicated baths are composed of broths, milk, blood, bouillon, oils or fats.

The animal bath, now nearly obsolete, was highly extolled by the ancients. It consisted of wrapping the whole or part of the patient's body in the warm skin of a recently killed animal. In the case of lameness, the patient's

limb would be inserted into the breast or abdomen of the animal while yet alive. Frequently small animals were killed and split open and applied directly to the skin of the diseased part.

It is desired, however, to speak of bathing in natural mineral waters only. The virtues of these waters have been long established and are daily receiving more extended application. Since the modern development of this system of therapeutics, a new school so-called, or class of people, have styled themselves "hydropaths," "water curers," etc., and with the exaggeration incident to everything new the promoters have promised a panacea "for all ills that flesh is heir to," which, of course, is as absurd as it is illfounded. Now that these quackish pretentions are all but universally ignored or buried in oblivion, it is very generally admitted by scientific medical men and experimenters that mineral water is capable of a large range of effects, and that the skin—some sixteen to twenty square feet in extent—is by no means impervious to the foreign particles and gases held in solution in these waters. No other organ has so large an absorbing surface. The skin may be used supplementary to the lungs or to the kidneys—indeed, we can keep a person alive for a long period by bathing in milk or beef soup, etc. The cutaneous surface exhales carbonic anhydride and takes up oxygen, thereby assisting the lungs. The skin can also be made to assist the kidneys materially by an increased action in the excretion of effete materials from tissue metamorphosis. Medicaments may likewise be absorbed by the skin which can thereby be made an active agent in the maintenance of health and in the treatment of disease.

*The natural mineral water bath.*—The external use of many of the mineral waters in California and elsewhere is found to be of great service in chronic rheumatism, rheumatic arthritis, gouty and strumous joint affections and chronic skin diseases.

The most beneficial bath in the world may do great harm if injudiciously used, and indiscriminate bathing in hot mineral waters may not only prove injurious, but may even be attended with fatal results. It is, therefore, urged that careful medical surveillance be observed, and that a systematic course of bathing be instituted as an auxillary measure in the treatment of these chronic diseases.

The beneficial results of warm or hot mineral water bathing are perfectly logical.

The sensations experienced on entering a warm mineral bath are pleasing. A feeling of comfort and enjoyment immediately follows, imparting to the system generally a genial sensation productive of luxurious contentment. The warmth is rapidly communicated to the entire system, and propagated to the nerve centers from which reaction supervenes.

The first noticeable phenomena are redness, swelling and expansion of the integument, produced by the dilatation of the smaller blood vessels under the relaxant influence of heat. This relaxant action is not confined to the skin alone, as the bath continues, but is also felt in the structures which lie beneath it. The muscles and tendons and inflammatory products around the joints seem to soften and exhibit less tension. This softening and swelling of the cutaneous system is noticeable by the wearing apparel, shoes, finger rings, etc., becoming "too small" after a bath. Now, this enlargement of the integumentary surface is in part due to the dilated arterioles and capillaries from the relaxant effect of the warm water, and also in part due to the absorption of the mineral water and ingredients; which absorption is in direct ratio to the specific gravity of the medium used.

This question of the absorption of water and mineral constituents by the skin has been a mooted point for many years, and it was not until recently that the subject assumed anything like a satisfactory solution. The many careful experiments and observations by such men as Maden, Collard de Martigny, Berthold, Willemin and Edwards, as well as clinical experience in daily practice, conclusively prove the endosmotic and exosmotic power of the skin. The mineral salts and

elements have been observed in the secretions and excretions after bathing. Even the gases and acids in the water have been demonstrated in the circulation after a prolonged mineral bath, so that cutaneous absorption may be regarded as satisfactorily established.

The temperature of the bath determines the relative force and frequency of the heart's action.

Respiration is also augmented in frequency on first entering the bath.

With every increment of heat above the bodily temperature (98.5° F.) that the bath is raised, so is the rapidity of the pulse and respiration, *pari passu*, increased. The warm bath also increases pulmonary cutaneous respiration. If the temperature be high, rapid disintegration of tissue ensues; the waste products of the body or disease escaping through the skin and through the pulmonary mucous membrane.

In this connection it may be mentioned that a prolonged bath at a temperature of 100° to 105° F. has produced decided loss of weight in obese persons.

With the general dilatation of the capillaries and the concomitant relaxation of the nervous, muscular and articular systems and with the osmotic absorption of some of the bathing fluid into the circulation there seems to be greater volume to the pulsations; arterioles, apparently sluggish in the performance of their duties from the tumefaction or inflamed condition of the surrounding tissues, take on renewed activity. This likely is one of the explanations of the *modus operandi* by which a swollen joint or an arthritic effusion improves so considerably by the use of thermal mineral baths.

GENERAL RULES FOR BATHING.

It is well nigh impossible to lay down hard and fast rules for bathing of universal application. Invalids are surrounded by so many circumstances objective and subjective that their management requires considerable latitude. The time of day, temperature, duration and frequency of bathing, after treatment, etc., all demand attention, and as every individual case requires special surveillance, only an outline for bathing can here be laid down.

*Time of the day.*—Usually about 10 to 11 A. M., or about two to three hours after breakfast, will be right for the morning bath, or two or three hours after luncheon for an afternoon bath. Never allow a patient to bathe immediately before or after a meal, as digestion would be seriously retarded.

*Temperature.*—The warm bath, 95° F. to 100° F., will probably suit most cases. Individual idiosyncrasy, however, requires consideration. A temperature which would be soothing and tonic to one person might prove too exciting and too stimulative for another. It is well to enter the bath at 95° F., and then increase it to any desired temperature. Should copious diaphoresis be desired a temperature of 105° F. or 106° to 110° F. may be used. The thermometer should accompany each bath and competent medical aid should always be at hand when hot baths are taken. Hot baths should not be used by patients suffering with organic disease of either heart, lungs or arteries. The plethoric and obese require care, let them enter the bath at a low temperature and gradually have it increased.

*Duration of bath.*—Here again the bather must be governed by the requirements and peculiarities of his individual case. As a rule, ten to thirty minutes at a temperature of 95°-100° F. produces stimulating and tonic action and allows ample time for the absorption of the saline and mineral salts. In temperatures of 105°-110° F. a few minutes immersion, say three to ten, will suffice. In cases of chronic cutaneous affections, half to one or even two hours soaking in mineral water at about 99° F. has been found most beneficial. In the hot moor or mud baths, now so efficiently used in joint affections, the temperature may be from 120° to 140° F., and immersion may last for five, ten to thirty or more minutes, on account of the low diffusive power of the heat in the mud.

*Frequency of bathing.*—This depends on the disease and on the patient's strength. It

has been found that two or three baths a week at first, and then gradually increasing them to one (and rarely two) every day, do remarkably well.

*After treatment.*—It is important to establish complete reaction after each bath. The bathing facilities should be such that the apartments are warm and comfortable. Should prolonged sweating be desired, comfortable lounges or cots with blankets are provided. Otherwise the patient is briskly rubbed and thoroughly dried with rough Turkish towels. Should reaction be feeble then the use of the flesh rubber or flesh-brush or strop may be advantageously resorted to. The cold douche may also be used. Hot beef-tea or soup is a capital stimulant, with or without brandy in cases of necessity. Having been thoroughly dried, it is well to gently rub the affected joints or limbs for some minutes, then dress and resort to very gentle exercise for half an hour to an hour. It has been observed that patients after bathing in mineral water are not so apt to take cold as when plain water is used; it is well, however, to use care if the weather be cold.

The foregoing remarks have been applied to general immersions. In rheumatic and arthritic diseases one or both hands or the feet are frequently much affected. In these cases the happiest results have been obtained by the hand or the foot bath, and for this purpose the hot 110°-140° F. sulphurous mud seems particularly serviceable. This partial bath may continue for half an hour or more, after which gentle rubbing with stimulating lotions, etc., may be practiced. A vaginal douche of hot mineral water has been found especially useful in the treatment of uterine engorgement, leucorrhea, etc. Use several gallons two or three times daily and let the recumbent position be observed while using the injection. Heavy saline or sulphurous waters promise the best results.

The more professional reader is particularly cautioned against the indiscriminate use of the thermal mineral waters, either for internal or external use, for, although they may look inert and harmless, these waters are potent agencies for good or for evil according to their application.

The mineral waters are not held out as cure alls. It is only desired to call attention to their use as auxiliaries in the treatment of these exceedingly chronic and troublesome diseases. It may be remarked that California possesses as valuable mineral springs as those found in any other part of the world. A careful study of the composition of our local waters reveals the fact that many are almost identical with the noted springs in Europe. When this fact becomes more generally known, our invalids will not seek foreign springs and resorts at a great expense and a tedious journey, when they can obtain the same aid in their own state, with the addition of a more genial climate.—*Pacif. Med. Jour.*

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## NOTES REGARDING THE MANAGEMENT OF CHRONIC GASTRO-INTESTINAL CATARRH.

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(Reported by CHARLES R. CRANDALL, M.D.)

The object in reporting the following typical cases is to call attention to practical methods. The principles and methods set forth are comparatively simple, yet as will be seen, they are sufficient to afford good results. Having proven to be of real merit in many instances, it is hoped that their utility will be more generally recognized, so that they will gain an established place in medical practice. Surely, whatever tends to help the physician in the cure of obstinate diseases, and is also capable of bringing relief to patients who have long experienced intolerable suffering, is worthy of recognition.

Chronic Catarrh of the Stomach.—Mr. H——, æt. 29, of good family history, exemplary habits, and a lawyer by profession. In boyhood he lived in a malarious climate, and suffered more or less from fever and ague. At a very early age he began to show symptoms of indigestion, with which he has been troubled more or less since. Eight years

ago serious symptoms of acidity of the secretions of the stomach, accompanied by pain and flatulence, began to develop. About three hours after eating he would have severe epigastric pain, a sense of burning and distress, followed by eructations of gas and sour fluids. Four years ago he had what was diagnosed to be an attack of acute catarrh of the stomach, attended by a great increase of all his former symptoms. During this attack he was sick in bed three weeks, and several weeks more elapsed before he regained his usual health. The chronic condition became so bad that he was obliged to make a radical change in business and mode of living, and therefore engaged in "ranching" in Colorado. In this new and invigorating life he had an abundance of fresh air and exercise, and, as a result, was benefited. But, at best, he suffered more or less from catarrhal disease of the stomach, despite the fact that he guarded himself in every way and lived mostly on a regulated diet, such as he had found was best for him. He had already discovered that an animal diet, composed mostly of eggs and beef, agreed better with him than anything else. The trouble from which he suffered seemed to be limited to his stomach, for during all the years of his troubles his bowels remained in good condition. Last summer he had a brief run of what is known as "mountain fever," which prostrated him very much. As soon as the fever began to break, he had an attack of "catarrhal inflammation of stomach and bowels." As may be inferred, these conditions greatly aggravated the chronic diseases from which he had long suffered intolerable misery. In addition, prolonged suffering from gastric catarrh, repeated severe acute attacks, and mal-nutrition, all tended to break down his nervous system and give rise to alarming symptoms,such as great mental depression, headache, wakefulness and irritability. It should be stated also, as a matter of fact, that during all these years he was under medical treatment more or less,and had sought health in every possible way. When he presented himself for treatment in October of 1888, he had a pale, tired look, was thin in flesh and very much debilitated. He complained of the nervous symptoms above described, and of pain and distress in his stomach, especially after meals. His tongue was coated, his appetite poor, and there was pain and tenderness over his stomach. He also had marked naso-pharyngeal catarrh. His bowels were in fairly good condition, but greatly distended with gas. Microscopic examination of his blood showed that it was in quite good condition. There was an almost entire absence of morbid products. Such was to be expected, for the blood does not show abnormal products to any extent in catarrhal disease of the stomach. It is during catarrhal or longstanding functional and catarrhal, diseases of the bowels that the blood contains a large amount of the products of fermentation and decomposition. This is owing to the fact that yeast-germs, and various alkaloidal products of decomposition are absorbed through the villi, lacteals, and bloodvessels of the intestines, whereas in the stomach the veins and arteries are the only means of absorption of normal and abnormal products. Urinary analysis showed a large quantity of biliary coloring matter in the urine, phosphates in excess, and a specific gravity of 1.032. Repeated examinations were made during the entire course of treatment. This was done for the purpose of ascertaining how he was digesting his food, and also how the liver and kidneys were doing their respective work. It is the only scientific means for finding out whether the work done in the body is good or bad. After the regulation of the diet, and the adoption of sufficient liquid, the urine was gradually changed and a normal condition was established.

Treatment was begun by an effort to gain control of the mental state of the patient, with a view of inspiring courage and hope, and gaining full co-operation. To insure nerve and brain rest, he was directed to take a long rest both before and after meals, and to go to bed early at night and get all the sleep possible. He was advised to drink a pint of hot water an hour and a half before meals and before retiring at night. The ob-

ject of this was to stimulate secretory and excretory glands, dilute and wash the mucus from the stomach, "flush out" the kidneys, and keep the urine down to a specific gravity of 1.015–18. All starchy and saccharine foods were forbidden, and nothing allowed in the way of nourishment but an animal diet. At first only a few ounces of the muscle-pulp of beef, or beefsteak, were permitted at a meal. After about six weeks very small quantities of starchy food were allowed, and their effect constantly watched. In such manner he was gradually brought around to a more varied and mixed diet.

The medicines employed consisted of small doses of liquor hydrastia et bismuth before meals, pepsin after meals, and a small piece of rhubarb to insure one free movement of his bowels daily. For his general debility, which was increased at first by the withdrawal of his customary foods, he was given twenty or thirty drops of aromatic spirits of ammonia, or else one tablespoonful of good whisky in water, three or four times daily.

This line of treatment was persisted in for week after week, his naso-pharyngeal catarrh was duly treated and cured, and he was carefully watched and advised from day to day. As a result, there ensued a prompt dissppearance of acidity, flatulence, and distress in his stomach. His nervous system righted up so that he soon began to sleep well, all despondency passed away, and he became hopeful and cheerful. In a few weeks he also began to gain strength and flesh, and a good, fresh color.

Now, after four months, he enjoys good health, has gained nearly ten pounds in weight is much improved in every way, and, with care in regard to his diet, will keep perfectly well.

Chronic Catarrh of the Bowels.—Mr. W——, æt. 45, of steady habits and good family history. He spent his early life on a farm, and was healthy and large. Later he engaged in confectionery business and pursued it for a number of years until his health failed. Fifteen years ago he noticed that his general health was declining. Farther along naso-pharyngeal catarrh developed, accompanied by a steadily increasing cough. He then began to seek medical treatment, and went from one physician to another, but obtained no satisfactory help. His whole system seemed involved, and there was doubtless a formidable array of symptoms, for he was informed at one time that his lungs were diseased; again, that his trouble was with the heart and kidneys. This state of affairs went on for seven years. About this time it was discovered that he had a tape-worm, and one was forced away that measured seventy feet. For a while his health remained very poor, but ultimately it improved, and for three years he was better. Then he began to suffer greatly from acidity, flatulency, pain, and so-called inflammation of the stomach. His food did not seem to distress him in a marked degree, but he suffered greatly from distention caused by the gas that accumulated in his stomach and bowels. He was informed by his physicians that he had "wind dyspepsia." During the last three years he has been severely troubled by gas in his bowels, and by constipation. Every little while, however, he would have attacks of diarrhea,which was, doubtless, nature's method for relieving the pent-up condition. After he had had several attacks of diarrhea he made the discovery that the discharges contained a large quantity of what appeared to him to be the coating or lining of the bowels. In other words, he passed thick, tough, stringy, organized catarrhal mucus, which is a common thing in such cases. Besides, the gas and material passed from his bowels were highly offensive, indicating the degree of decomposition and fermentation that was taking place. The gas eructated from his stomach had also the same offensive and disgusting odor. During the years he thus suffered there was a steady decline in strength and flesh; his weight, which had been nearly one hundred and sixty pounds, fell to one hundred and twenty-six pounds, and he became so weak that he could scarcely walk. His family and friends thought that he could live but a short time, and he himself was utterly discouraged. He gave

up his business, being too sick to attend to it and not expecting to live. During the long term of years that he was sick he traveled more or less for his health, and had, at different times, the care of ten well-known physicians. These facts are mentioned to convey an idea of the duration, severity, and obstinacy of his condition.

When he came under the following treatment, which he did a year and a half ago, he was thin in flesh and very pale and weak. He complained of despondency, headache, "full-headedness," ringing in his ears, and constant distress in his bowels. His bowels were moving several times daily, and discharging a great amount of gas and thick, tough mucus. At times there would be exfoliation of casts of the bowels, which looked like the lining or mucous surface. Microscopic examination of his blood showed that the red corpuscles were pale, poorly nourished, and shrunken. There were also present a great quantity of mycederma aceti, one of the absorbed products of fermentation. Urinary analysis revealed the presence of considerable biliary matter, and an excess of urates. The urine was dense in appearance, and had a specific gravity of 1.030. Abdominal inspection and percussion discovered general distention from gas, and decided tenderness over the large bowel. This was especially apparent under the constant current of electricity, not alone over motor points, but over the entire bowels.

At the outset of the treatment an effort was made to re establish a healthy mental state. In the management of such cases it is always of first importance to gain the confidence of the patient, and thus secure cheerful help on his part. He was carefully guarded against physical and mental fatigue, in order to give the bowels rest and save all the nerve-force possible. In addition he was directed to restore a healthy action of the skin by means of stimulating baths, and by friction taken daily. The use of hot water internally was adopted at once, and he began by taking a glassful an hour and a half before meals, and upon going to bed. This amount was steadily increased until he took a pint four times daily. The effect of this was to thin and dissolve the catarrhal secretions, cleanse the stomach, bowels, and kidneys, and help to prevent excessive fermentation. Besides, it increased the volume of liquids in all the tissues of the body, acted as a mild stimulant to all of the emunctories, and thus favored the elimination of morbid material, the natural result of chronic fermentation and deficient oxidation. At times it caused what can be best described as "scourings" or "cleanings," during which the bowels acted more freely, and discharged large quantities of "sloughed off," stringy mucous. These "clearings" became less frequent, and in time mucus ceased to appear in the stools. The restricted animal diet was also adopted in this case, and consisted at first of small quantities of the muscle-pulp of beef, tender beefsteaks, lean mutton chops, game, and the whites of eggs. He was allowed, farther along, a very small amount of starchy food, with the direction to limit the quantity, or to discontinue it altogether, if it caused gas in his bowels. To offset the sense of extreme debility he felt at times, he was given either twenty drops of aromatic spirits of ammonia, or one tablespoonful of the best whiskey, well diluted, four times daily. As an aid to digestion he was given pepsin, to take after meals. For a nerve-tonic a combination of tincture of cinchona, fluid extract of stillingia, and fluid extract of damiana was prescribed. Later, whenever his liver became sluggish, or his bowels constipated, he was directed to take, at bed-time, a pill composed of a grain and a half of wild cucumber, one-third of a grain of calomel, and one-half a grain of extract of hyoscyamus. The object was to produce one good free movement.

After being on this treatment a few weks he began to improve, and the symptoms of dyspepsia, fermentation, and diarrhea steadily disappeared. The discharges from the bowels gradually became natural in consistency and frequency, showing that intestinal digestion was going on normally. Several months later he began to gain flesh, and his weight has now increased to one hundred and fift

pounds. His strength has correspondingly increased, so that he is able to be about all day, attending more or lees to business. Discomfort from food is practically unknown, unless he eats too much, especially of starchy foods, thus causing fermentation. By guarding his diet and using hot water he gets along nicely, and is comparatively well. He was under treatment a year and a half. It usually takes from one to three years to cure such cases, much depending upon the severity of the diseases.

Remarks.—In perusing the histories given above it has doubtless been noticed that in the management of each case great effort was made to form an accurate diagnosis, and to obtain thorough understanding of existing conditions. While it is true that subjective symptoms and physical signs were recognized, they were, nevertheless, made secondary to the accurate determinations obtained by repeated study of the blood, the urine, and the feces. Therefore, in addition to the means ordinarily employed, very frequent microscopic studies of the blood were made; the urine was examined chemically from day to day, and often microscopically; and the character of the feces inspected as often as seemed necessary. In the treatment of such cases a daily thorough investigation of excretions and products is, in the highest degree, essential. It is the only means of accurately determining to what extent patients are digesting their food, to what degree the liver and kidneys are doing their work, and just what quality of blood is being made. There is no other way for obtaining clear, definite, and reliable results. It must ever be borne in mind that the only way of learning how an organ is doing its work is by frequent and careful study of its product. Morbid organs must inevitably form morbid product. The one is cause, the other is effect. With accurate and comprehensive knowledge thus obtained for a basis, every means of treatment must be subsequently employed that promises aid in effecting a cure. It is a mistake to believe that any one thing, be it food, drink, medicines, rest, or change, will accomplish satisfactory results. There must be, from first to last, the employment of all rational means and methods that tend to remove causes, to restore the healty action of every organ, to improve the character of the blood, and to build up the nerve power.

The next step in the management of these cases was the removal of causes that maintained unhealthy action and disease. It would be folly to use space for the purpose of enlarging on the fact that chronic gastric or chronic intestinal catarrh, "twin scourges of humanity," is invariably caused and perpetuated by something or some condition that is constantly acting. In the great majority of instances this something is unhealthy and improperly digested foods. As a rule, these foods are undergoing morbid changes in either the stomach or bowels, or in both, and perpetuating and augmenting disease. A process in in constant operation that is not only keeping up irritation and excessive secretion of mucus, but also generating abnormal elements which take the form of "gases," "ferments," "ptomaines," or "alkaloids." These are absorbed into the blood, carried into every part of the system, and work their deleterious effects upon organs, muscles, and nerves. Hence comes the primary importance of dispensing with every food that does not digest properly. As is well known, the foods most liable to undergo fermentation and cause gastro-intestinal catarrh are those of a starchy and saccharine nature, as, for instance, bread, oat and corn meal, rice, pastries, potatoes, beans, and, in short, most of the vegetables. These are the foods that, in many persons, cause acidity, fermentation, and irritation, and thus keep the alimentary tract more or less filled with abnormal fluids and gases. All foods of this class were looked upon as causes in the foregoing instances, and were therefore more or less rigidly excluded from the diet for days and weeks, and even months. Inasmuch as prompt relief followed their exclusion, it is reasonable to believe that they had been the cause of the miserable effects that had long prevailed. The complete exclusion of starchy

and fermentable foods is an interesting feature, owing to the fact that such exclusion is completely contrary to the usual methods of treating such cases, starchy foods being generally relied upon and an animal diet excluded. Indeed, nearly all authorities have claimed that persons having gastro-intestinal catarrh should be dieted on starchy and saccharine foods, and omit animal food entirely. In such manner they have been dieted on the very articles and elements that are the chief causes of fermentation, and the disease perpetuated instead of cured. It needs no argument to prove the absurdity of trying to cure chronic fermentation with fermentable foods it needs no logic to explode the sheer nonsense of feeding patients on oat meal, then washing it out of the stomach in a few hours, sour and undigested, and then feeding the patient again with the same material. This is being done in New York at the present time. On the other hand, the patients referred to were persistently guarded against starchy foods, were fed for a long time exclusively on animal foods, which are non-fermentable, and were promptly relieved and eventually cured. It was not the desire to place these patients arbitrarily on a particular diet, but rather on one that they could digest and assimilate. Thus far, after several years of trial in my practice, an animal diet has been found to yield incomparably better results than any other, and for this reason it was employed. It was, of course, essential to ascertain from time to time if it was being properly digested, and this was done by a careful study of the blood, the urine, the feces, and all other symptoms, according to the methods already mentioned. It would be impossible to state too strongly the importance of frequent and thorough study of the aboved named products, and of all relevant symptoms connected with the case. The fact that these patients, and hundreds more who have been similarly dieted, were eventually cured, tends to demonstrate that an animal diet is the most easily digested, and that it contains all the potential elements needed to meet the demands of the system. The great thing is to have the stomach and bowels thoroughly cleansed by copious quantities of hot water, and then to allow the patient only as much animal food as can be digested. When used thus it agrees with nearly all cases, enables the organs to repair their power, improves the quality of the blood, and restores the tissues of the entire system.

Another essential feature in the treatment of the cases alluded to was, the long-continued use of hot-water. As stated before, it was given for the purpose of supplying to the system a sufficient quantity of liquid, stimtlating the secretory and excretory glands, diluting and washing out the excessive catarrhal mucus collected along the intestinal tract. It is simply impossible to cure catarrhal disease of the stomach and bowels so long as their surfaces are covered with tough mucus, yeast-germs, and excremental filth. These decomposed and deleterious products must first be washed out, and then kept washed out by a free and methodical use of hot-water. This methodical use must be regulated by the intelligence and judgment of a physcian who has a definite purpose in view and who knows how to accomplish his purpose. In the treatment of these cases it is necessary to continue its use for a long time. It requires months, and in some instances even two or three years, to cleanse the digestive tract and the blood of their morbid contents. It is indeed not saying too much in claiming that the free use of hot-water is an inseparable and invaluable adjunct to this radical method of curing chronic diseases.

In regard to the use of medicines but little need be said. Those employed were simple and of a well-known character, and were used to meet urgent indications. On them but little reliance was placed, farther than to meet certain temporary needs. In short, they were used only so far as they promoted the appetite, aided the digestion, augmented the tone of the nervous system, and stimulated or checked the secretions. In catarrh of the stomach and duodenum specific medicines sometimes do direct good, but below these points their effect is practically *nil.* But it is

safe to say that no single means or medicine can effect the cure of these long-standing and desperate conditions. There must be not only rational exclusion of every well-known element of causation, but also the adoption of measures calculated to restore function, and build up the blood and the general system.

In conclusion, the results obtained in the instances cited, and scores of cases besides, tend to establish three important facts:

1. That the majority of cases of gastro-intestinal catarrh "go the rounds" in vain and become the bane of medical practice, are entirely curable.

2. That prolonged use of from one to two quarts of hot water daily is in no sense injurious, but, despite all conflicting statements to the contrary, is, when given with precaution for a definite purpose, and according to well established scientific guides, one of the most grateful and useful remedial means that can be employed.

3. That an animal diet, properly selected and prepared, is the best tolerated, the most easily digested,and the mostpromptly absorbed of anydiet thus far known. When the rules and methods above stated have been observed, it can be used for months and years without occasioning the slightest harm. In no sense does it tend to cause gout, rheumatism, or Bright's disease, as is sometimes ignorantly claimed. In connection with the diseases above described, its great utility is to tide the patients over until they can live well and comfortably on a diet composed of two-thirds animal and one-third starchy food, which is the normal proportion.

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## CHLOROFORM ADMINISTRATION.

At the distribution of the prizes to the students of the Hyderabad Medical School, by their Royal Highnesses the Duke and Duchess of Connaught, on January 25, Surgeon-Major Lawrie, M. D., Principal of the Medical School, in a short address, referred to the commission appointed last year by the Nizam's Government, to make experiments with reference to the effects of chloroform. Dr. Lawrie said the experiments which had been carried out by the commission, consisting of Dr. Hehir, Mr. Kelly and Mr. Chamarette, were, in his opinion, the most important that had ever been made, and had conclusively decided a question which had been in dispute ever since chloroform was first introduced. There was no doubt that the anesthesia produced by chloroform was best measured by its effect on the breathing, and that when the administration was pushed beyond a safe point, the breathing became embarrassed and then stopped. The question in dispute was whether chloroform ever affected the heart directly or not; and this was important in its bearing on the way in which the administration of the anesthetic should be conducted. The following was the work performed by the commission, as described by Dr. Lawrie. They killed with chloroform 128 full-grown pariah dogs, averaging over twenty pounds weight each. This does not represent a tithe of the experiments they actually performed, which really amounted to several hundreds, as they varied the dose and the method of administering the chloroform in every possible way, and tested the value of artificial respiration innearly every case by reviving the dogs over and over again after the breathing had stopped, and before the heart ceased beating. What they found was, that no matter in what way it was given, in no case did the heart become dangerously affected by chloroform until after the breathing had stopped. "This," adds Dr. Lawrie, "tallies exactly with my own experience. I have given chloroform as often, or ofterner, than any man living, and have never had a fatal case; and I can state positively that in the 40,000 or 50,000 administrations I have superintended I have never seen the heart injuriously or dangerously affected by it. I take no credit to myself in this matter. I have simply carried out in India the principles Simpson and Syme practised and taught in Edinburgh." In the hospitals attached to their school, chloroform was invariably given with absolute, or he might almost

say with gauranteed safety, by students, and they were never allowed to examine the heart beforehand, or feel the pulse during its administration. In other places, and in London itself, deaths from chloroform constantly occurred, but provided the administrator could swear he examined the heart and felt the pulse, they were always supposed to be accidental. He, Dr. Lawrie, had no doubt deaths would go on occurring until the London schools, which of course influenced the whole world, either entirely changed their principles and ignored the heart in chloro form administration, or else confined themselves exclusively to the use of an anesthetic like ether, which, with all its disadvantages, they knew how to manage.—Ed. *Brit. Med. Jour.*

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Safe Delivery of Triplets after Death of Mother.—Dr. Pinard has published in the February number of the *Annales de Gynecologie* a most instructive history of a case of triplet pregnancy. The patient was 38 years old, and had gone through five labors, all normal. The last period was in February, 1888. On October 27, she fancied she felt labor pains, and was admitted into the Lariboiserei Maternity. The uterus was unusually large. After a very careful examination, six fetal poles were distinctly made out. One head occupied the pelvic excavation, and the corresponding breech lay under the left false ribs. The second head occupied the symphysis to the right; the third and highest head occupied the fundus to the right. The second breech occupied the fundus in the middle line; the third the right iliac fossa. One heart was audible between the left iliac spine and the umbilicus; the two remaining were less easily distinguished from each other; they lay above and to the right of the umbillicus. They shifted position frequently. Attacks of dyspnea set in, but they lasted only a short time. On Nov. 13, patient was well and in high spirits till 6 o'clock in the afternoon, when labor pains set in. At 9.30 fits of dyspnea came on with each pain. A head was dilating the os, which had reached the diameter of a two-franc piece. The membranes were ruptured in order to diminish the uterine tension, but, before the forceps could be used to hasten labor, a fatal attack of dyspnea set in. The midwife, Mdlle. Carrier, unable to restore the patient by artificial respiration, and still without assistance, endeavoured and successfully, to save the children. First, she pushed back the head, finding no difficulty in introducing her hand into the uterine cavity. She then seized a foot, and drew out a child; it breathed. She tore the cord, and did not ligature it. Once more she passed her hand into the cavity of the uterus, which was very capacious and met with a great, flaccid pouch which she could not break. She seized a member and pulled it into the vagina; it tore through the membranes, and was found to be an arm. Mdlle. Carrier traced the corresponding foot, and then delivered the child with the greatest ease; it cried at birth. An assistant was now present, and the cord was tied. Mdlle. Carrier introduced her hand a third time, and tore the membranes as on the second occasion, withdrawing the third fetus. It did not breathe but its heart beat. All three soon breathed well, and were alive when the case was published. The delivery of the three was effected within five minutes. The last was born twelve minutes after the death of the mother. The placentæ remained adherent. The first two children were females. The lightest weighed about four pounds and a quarter, the heaviest under six pounds and a half. No organic disease of the mother's heart and lungs could be detected, either before death or at the necropsy; the liver was enormously hypertrophied, and the walls of right ventricle rather thin. M. Pinard attributes death to the actual exhaustion of the heart. At the beginning of labor, under the influence of uterine contractions, the tension in the vascular system became extreme, and the heart, already fatigued, was rapidly exhausted. The ease with which, partly through the skill of Mdlle. Carrier, the three infants were delivered immediately after the mother's death, justifies in M. Pinard's opin-

ion the similar method of Rizzoli, which Dr. Thevenot has endeavored to establish in French practice.—*Brit. Med. Jour.*

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TREATMENT OF DIPHTHERIA.—A New York correspondent writes the *Med. and Surg. Reporter* as follows: Prof. J. E. Winters has laid down the following rules for the treatment of diphtheria. It is the treatment followed in his private practice and in the University and DeMilt Dispensaries, and he vouches for its results. Exhaustion and laryngeal complications are the chief causes of death, and are the things to combat. To prevent the former put the patient in bed and keep him there, no matter how mild the case may be. The latter cause of death is always brought on by exposure, and hence the bed should be placed out of reach of all draughts and the patient's neck should be kept warm. If flaxseed poultices are used they must be kept hot and changed every hour at least. A good method is to apply fat pork or bacon well sprinkled with pepper, both to the neck and up the sides of the face. Use heat by the inhalation of steam. As it is exhausting do not use it constantly but for ten or fifteen minutes, several times daily. Sulphurous acid, obtained easily by burning a piece of sulphur in the room, aids in the exfoliation of the membrane, reduces congestion and promotes the health of the sore. Local treatment: When the diphtheritic inflammation is under direct observation, as on the tonsils, local treatment is of little avail, and, as it causes struggling and consequent exhaustion, is contra-indicated. In nasal diphtheria, however, the local treatment is most important and can be had without exhaustion. Place the patient on the edge of the bed and use a Davidson syringe until a passage is obtained through the nostrils. The saturated solution of boracic acid is the best application and if there is putrefaction alcohol can be added (f ʒss to Oj). General treatment: Begin with calomel (gr. ij into ten powders, one every hour) as it stimulates all the secretions. Iron in full doses is indicated. Ten drops of the tincture of the chloride can be given and, if borne, doubled after twenty-four hours. If there is sepsis even (fʒj) doses can be given. If quinine does not irritate it should be given in tonic doses (to a child two or three years old, gr. j. t. i. d.). Give alcohol only when the pulse indicates its necessity, beginning with gt. x. If the disease is extending downward, in addition to the above burn tar in the room. Its *modus operandi* is unknown, but it relieves the symptoms and also spoils all clothing with which it comes in contact. Carry the nutrition of the patient to the highest pitch with milk and beef tea.

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FREQUENCY OF EXTRA-UTERINE PREGNANCY.—We have been informed that no less than four cases of ectopic gestation have been subjected to operation, during the last eight days, within the London postal district. One was operated upon at the time of rupture; in two, we understand, there was a twin fetus in the uterus. We are neither able nor willing to give details of these cases; any history so soon after operation would be imperfect and its publication objectionable. We note the remarkable fact as a sign of the times. When Parry's great collection of the literature of the subject appeared in 1876 in the form of a small book, cautious surgeons and obstetricians doubted that so many cases could really be genuine. Since that date, however, attention has been turned to the subject, and men are better educated in pelvic and abdominal exploration. The history of ectopic gestation teaches how much more frequent a disease proves to be when it has long been recognized than it is believed to be when first discovered. Certain affections beyond the range of surgery are probably more common than generally supposed, for by surgery have ectopic pregnancy and other conditions amenable to operative treatment been brought to light when they otherwise might well have been overlooked.—*Brit. Med. Jour.*

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### SURGICAL NOTES RELATING TO FRACTURE AT THE BASE OF THE SKULL.

BY GEO. W. BROOME, M.D.

Read before the Medical Press Association.

In reporting two recently treated cases of fracture through the middle cerebral fossæ, I wish to emphasize a few facts not heretofore definately settled relating to injuries of this nature.

1. That when there is a free flow of blood from the external ear it is safe to assume that the drum membrane has been ruptured, and if followed later by a discharge of a fluid limpid in color, it is unmistakably cerebro-spinal fluid, and that there exists a frac ture through the petrous bone.

2. That although a seeming paradox, it is notwithstanding a fact that if the fracture is not attended by a free escape of the extravasated blood extending over a period of several days duration that just in proportion to the degree of pressure thus superimposed, will the graver or more painful symptoms manifest themselves.

3. That if the extravasated blood does not find a free egress from the cranial vault, the case will assume a less promising outlook, except when upon the cessation of the hemorrhage free discharge of the cerebro-spinal fluid takes place, then compensatory relief is afforded.

That Hilton in his experiment upon a boy with fracture at the base of the skull, whereby he increased the flow of the cerebro-spinal fluid by compressing both internal jugular veins, and thereby increased the cerebral congestion artificially, not only verified his belief that the extravasated fluids escape freely or not, just in proportion to the degree of congestion, but the suggestion also that when the symptoms become aggravated and alarming in consequence of the arrest or interference with the discharge of the extravasated fluids, the rational thing to do is to control the force and impulse of the heart.

The first of the two cases referred to sustained no external wound. The drum membrane was torn and the face partially paralyzed. The hemorrhage was very free for some days after which the limpid subarachnoid fluid escaped, perhaps a pint daily for a period of ten days. The interruptions in the progress of the case occurred only at intervals when we would lose control of the heart at these particular periods. The patient would very quickly experience uneasiness in his head, and shortly thereafter agonizing paroxysms and finally convulsions. Cold to the head and heroic doses of digitalis and aconite frequently repeated would in a little while subdue the patient.

The last case treated met with the accident which resulted in a fracture through the petrous bone sustained several ugly scalp wounds also. But the case progressed most satisfactorily under the administration of strophanthus and aconite regularly repe ated, with the addition of the ice bladder. In may be here stated that in the topical use of cold applications or the ice bladder, we conclude that this practice, when pursued independent of an effort to secure cardiac sedation, can only be regarded as hurtful and irrational.

#### DISCUSSION.

DR. F. R. FRY.—It seems to me that in

considering this subject it is almost impossible to formulate a mode of proceeding, except in the most general way.

Dr. Broome dwelt more particularly on the fractures that result in hemorrhage, that is, fractures of the base of the skull. It is very important to determine whether or not there has been hemorrhage before we proceed to the treatment. We must consider the possibilities of shock and concussion, and how much of the symptoms are due to one or the other of these agencies. The differential diagnosis of compression, for instance, from shock and from concussion is not always easy in the early history of the case. Of course, if we are unable to determine the exact condition, we can only treat the case in a general way. After the lapse of a number of hours or a number of days there may be symptoms pointing definitely to the existence of hemorrhage.

Now, so far as the treatment of the immediate result of the traumatism in which we have reason to believe that there is a fracture, and it is not so located that we may determine it positively, the first indication is absolute quiet. All of us know how easy it is to be negligent about this matter and allow patients to flounder about the bed and get on their feet. In order to attain this quiet there is the need of a sedative, and the best one to my mind is the hypodermic use of morphine carefully administered. Other treatment beyond this should be regulated in accordance with the symptoms. If there is a general condition of depression the treatment should be opposite from what it would be if there were evidences of over-action of the circulatory system. If the patient's face is pale and the pulse weak and thready, instead of applying ice to the head and using depletive methods, we should use stimulants. I would shave the head and bind it with cotton wool and oiled silk and Macintosh, so as to produce sweating. If the face is red and the pulse bounding I would keep the head in the ice pack. As long as the temperature is normal or has a tendency to reach beyond the normal, I have no hesitancy in keeping the head constantly imbedded in cold, or ice-packs. If we have reason to suspect a hemorrhage the position of the head should be carefully guarded. In the majority of these cases it is proper to elevate the head, and this should be done in such a way as not to flex the neck too much, or cause constriction about it. This point might seem to be a trivial one, and yet I was impressed with the amount of stress Gowers put upon it.

The question of venous section is one that Dr. Broome seemed to have disposed of very summarily by stating that it was something that had nearly gone out of practice, if not quite so. I think in these cases that with the proper amount of judgment there are sometimes indications for the withdrawal of a considerable amount of blood. It would be very hard to define exactly the circumstances under which we would proceed to draw blood. It is a matter that is better left to the decision of an experienced practitioner at the time. But it is going a little too far to say that it is never indicated. Instead of the abstraction of blood other general derivatives, besides those applicable immediately to the head, may be safely and rationally instituted in the way of diaphoretics and cathartics. In the free use of saline cathartics all of us understand what immense quantities of fluid may be removed from the system.

The point, then, of the whole matter is this, that so far as relief of the immediate symptoms of injuries of the kind that we are discussing is concerned, the treatment only can be indicated in the individual cases. After the lapse of a number of hours or days, if there has been hemorrhage, the evidences of it are more readily gathered. Then the indications become more specific; if there is hemorrhage over a considerable area, we find the persisting symptoms of compression. Maybe the symptoms are so general as to prevent us locating the hemorrhage exactly (and by the way we have to take into consideration in attempting to locate hemorrhages, the kind of hemorrhages that we have to deal with, whether a hemorrhage between the dura and the bone, subdural or subarch-

noidal). We have under these circumstances a general condition, and we can only proceed very slowly and cautiously until there may later still develop some indication for trephining for the relief of pressure. A more hopeful class of cases is that where we may be able to narrow the case down to a more circumscribed area, a monoplegia persisting when the symptoms have been at first very general. Hemiplegia is by far the most frequent sequel of intra-cranial hemorrhage, and in that instance we have to determine if possible whether the hemorrhage is on the superior surface of the brain or at the base. In attempting to determine this point we should very carefully examine the whole sensory apparatus. There are on record at the present time many instances in which relief was obtained from effects of all the kinds of hemorrhages that we have mentioned. Numbers of reported cases where by trephining clots have been removed, and brilliant results followed. The success due in the first place to our increased diagnostic ability, and in the second to the antiseptic methods of cranial surgery. Each case is, of course, a study in itself. It often takes a most acute kind of investigation and study to determine the cases that may be operated upon with the prospect of benefit from those that are not likely to be improved by operation. As Dr. Broome read his paper there occurred to me a suggestion that I don't remember to have remarked anywhere, that is, that at the first indication of fluid oozing from the ear, it would be very good practice to establish immediately antiseptic conditions. The fact that we have the oozing of blood from the middle ear is to a certain extent evidence of the communication from the outside to the inside of the cranium, through which septic germs may find their way.

Dr. H. C. Dalton (by invitation).—I have nothing to say except about antiseptic dressing. It has been our custom in the City Hospital when we see a case with bleeding from the ear to wash it out with an antiseptic wash and apply absorbent cotton. We look upon cerebro-spinal fluid flowing from the ear as an indication of fracture of the base of the skull.

Every injury of the scalp or head that comes in is examined closely so that we can discover whether it leads down to the skull. If so, we enlarge the wound, turn back the flaps and see if there is any injury or crack in the bone. Whenever we discover a fracture, even if it be simply a line of fracture, we trephine through. We don't wait for symptoms of compression. Our success has been so great in trephining that we almost look upon it as a minor operation. If there is any depression we raise it, and if there is any break of the dura mater we enlarge the opening and see if there is any blood beneath it. One case which I trephined had a gutter fracture about three inches long. We raised the depressed portion and found a small amount of blood beneath the dura mater which we cleaned out, and the convulsions that had been present before ceased. In about 24 hours he again had convulsions. We again opened the wound and enlarged the wound in the dura mater, and found a teaspoonful of blood, took that out and the convulsions ceased, and did not again recur for 36 hours, when they were worse than ever; again the dura mater wound was enlarged and we got a large amount of blood out and left the wound entirely open. After this the convulsions ceased and never returned, and the patient made a rapid recovery.

Our mode of treating fractures of the head and everywhere is what is known as the Bergmann method. We turn back the flaps, carry out what operative procedure we may wish, and then instead of sewing up the wound immediately we simply put in the stitches, leave them untied, pack the entire wound with gauze for 24 hours, when we re-dress, withdraw the tenting, tie the stitches and dress again. We generally find that in 24 hours all oozing has stopped, and it heals by first intention just as well as if we had sewed it up at first. Our results have been extremely good. In two years we have had two fractures of the base of the skull in which we trephined and both recovered.

Dr. A. H. Meisenbach.—Fractures of the skull are of two kinds, either in the vault or in the base. It may be of a simple nature with or without depression of the inner table. Where the symptoms of compression are present it is a matter of great moment to be able to tell to what they are due; whether to direct inpingement of the bone on the brain, or to extravasated blood.

One reason why fractures of the base of the skull are more fatal than fractures of the vault is that they are so inaccessible to surgical treatment. Fractures that occur at the vault of the cranium allow of easy trephining and the result may be more readily gotten rid of because the parts are more accessible. The symptoms of fracture of the skull as we look upon them, or as the books tell us, are compression, comatose condition or paralysis of some of the extremities of the body, or of speech, or of vision. These symptoms have to be taken into consideration in making a diagnosis and determining on the treatment. I agree with Dr. Fry as to the methods of treatment, but the condition and character of the patient must be taken into consideration. There is no plan which will apply to all. In one there may be high, bounding pulse, and in the other there may be a weak pulse that shows that the circulation is very poor, and, of course, in these cases you would not apply the same treatment than you would apply in the other with a full circulation. I take issue with Dr. Dalton when he says that in all cases of injury to the skull where there is abrasion of the scalp it is good surgery to cut down upon the bone, simply because we have statistics showing the good effects of this treatment. If we do not have positive symptoms to be guided by I do not think it is proper to cut down upon and trephine the bone. We all I presume can clearly recall cases in which there was in all propability fracture of the skull, which recovered without the intervention of the knife. This is especially so in reference to children. Not long since I saw a man who had a decided depression of the external table of the skull, and I could get no history from him of having had symptoms of depressed fracture.

Dr. J. R. Lemen.—I recall the case of a little boy, who had a fracture of the skull, in which you could depress the fragments. He was put in bed and he recovered without an untoward symptom.

Dr. Meisenbach.—It is a well-known fact that the bones of children are very flexible and that fractures of their bones more readily unite without surgical interference than the same class of fractures with the adult; and the reason why an infant may fall without injuring the brain as an adult would is that his bones are more flexible.

As to whether hemorrhage is a symptom of fracture or not, we have all seen cases where this was present without there being any implication of the base of the skull. The same principles that apply to surgery of other regions apply to the skull. When we have symptoms of tension and compression, it is the duty of the surgeon to remove them.

Dr. Dalton.—We had a case who had fallen in a drunken brawl and had torn the scalp a little, just at the ligamentum nuchæ. We did not think it extended to the skull. He was put to bed, and in about twenty-four hours he had epiloptoid convulsions. We enlarged the wound and found a simple crack in the skull. I put the trephine at the point of fracture and found that the inner table was considerably shattered and there was a large clot pressing on the brain. I took the clot out and the convulsions ceased. He afterwards died from alcoholism. In that case the injury did not even extend to the skull, and yet the inner plate was depressed considerably.

Dr. Love—The cases reported are interesting. A recovery from fracture of the base of the skull is unusual. In the consideration of such report the question of diagnosis comes first, and if the correctness of that be admitted, we are then interested in the treatment pursued.

The manner in which one patient was injured—his head being caught, as I understand the doctor, between a passenger elevator and

the shaft through which it passes up and down from floor to floor of a large modern office building—the violence was enormous and very sudden, being applied directly to the head from above downward, and was certainly sufficiently forcible to occasion fracture of the base. If fractured, it was caused by violence of an indirect character, the same as causes the majority of such cases. The doctor's second case was by direct force, the head being caught from side to side between two car-loads of railroad iron, the greatest shock being through the temporal bones.

The majority of these fractures were formerly supposed to be fractures by contre-coup. Modern researches have shown, however, that fracture of the base by contre-coup is very rare. It has been clearly established that the central bones of the base may be the only bones broken when the front and back part of the head have been caught between two opposing forces (Prescott Hewitt). Many cases are recorded of fractures of the base caused by the force acting from below upward. I recall a case occurring in 1873, caused by a man jumping from the third story of a building to the ground below, alighting on his feet, fracturing both legs and the base of the skull, the shock being transmitted through the medium of the spinal column.

The most pronounced symptoms of fracture of the base in addition to the profound shock and coma are the discharge of a serous fluid and blood from the ears, or from the nose and mouth, or there be only an extravasation of blood into the cellular tissue of the orbit and eyelids, or the mastoid region, or into that of the back of the head.

Effusion of blood under the ocular conjunctiva is a sign by which, with other circumstances, a fracture of the base may be recognized, of course, involving the orbital plates.

Bleeding from the nose or mouth or vomiting of blood occurs frequently after injuries of the head, but the free supply of blood to the mucous membrane lining these parts might occasion such hemorrhage.

If it be copious and long continued it is a decided diagnostic sign.

There is no more positive proof in severe injuries of the head than bleeding from the ears.

It must, however, be pronounced and long continued. With such a hemorrhage copious and prolonged, we are safe in concluding that there has been a fracture of the base running through the petrous part of the temporal bone, opening up a connection between the cavity of the tympanum and some of the large blood vessels in the neighborhood, or with a blood extravasation within the cranium itself.

If the membrana tympani be not ruptured, but the petrous bone be broken and the venous sinuses be interrupted in their integrity the blood will not escape from the ear but pass down through the eustachian tube into the nose or mouth.

The mere discharge of a watery fluid from the ear is not a sign of fracture of the base.

If the watery discharge be profuse and continuous and marked by a small quantity of albumen and a large amount of chloride of sodium, it is strongly probable that it is cerebro-spinal fluid.

A slight hemorrhage from the ear followed soon after by a variable quantity of watery discharge leaves the diagnosis doubtful. I recall three cases of fracture of the base coming under my observation during several years past, all of which were accompanied by the flow of great quantities of blood from the ear. The diagnosis was clearly established, the death was prompt within a few hours.

During my term of service at the St. Louis City Hospital in 1872 and 1873, I was called to a case outside of the institution which was believed to be a fracture of the base of the skull. The injury was received by indirect violence, and the symptoms strongly justified the diagnosis.

The discharge from the ear was of a serosanguinolent character, profuse and long continued. The details of the case are not at hand, but the result was recovery.

A profuse watery discharge from the ears together with hemorrhage more or less se-

vere accompanying injury of the head has always been considered by most writers as one of the worst possible complications.

It was even at one time believed that no patient could recover with such symptoms, but of late years there have been a number of recoveries recorded.

As I understand the matter, the mere escape of the cerebro-spinal fluid is not in itself dangerous, but it is the injury to the adjacent parts, and the conditions which occasion this escape that causes the danger to life.

The outcome in Dr. Broome's case was fortunate, and the course pursued is worthy of the most careful consideration.

Of course in the management of such cases we treat the symptoms as they arise. Quiet, tranquil surroundings are indicated, nothing permitted which can in any way irritate the sensorium. If the conditions demand, ice bags and leeches should be applied to the head.

One grave danger, of course, is shock, and if present it demands attention.

If hemorrhage be severe anti-hemorrhagics are indicated, and for this purpose opium is admirable.

Later, antiphlogistic measures are called for and a brisk calomel purge comes first on the list of medicaments for the accomplishment of our purpose.

Dr. Broome did not give us his cases in detail, but reported more particularly the use and effect of certain drugs in controlling the heart of his patient.

A tumultuously working heart carrying an excessive supply of blood to an injured brain thus favoring inflammation of the latter, should be suppressed and controlled. I can understand the selection of aconite and digitalis as means to the accomplishment of this end, where the heart is feeble in its action in febrile conditions. Fothergill has asserted that digitalis is valuable but Stille states that it has not been proven.

Traube has announced that the true field of action for digitalis is not fever.

Liehermeister condemns digitalis in fever, both because its antipyretic operation is uncertain, and because, when it does take place it is apt to be accompanied by disquieting symptoms.

Rasori was one of the first, many years ago, to apply digitalis in allaying inflammation, but it fell into disuse and was again revived some ten or fifteen years ago. Stille says "the results of its revival have been to prove that digitalis does not in the least modify favorably any acute inflammation and especially pneumonia pleuritis and pericarditis, but that on the contrary it exposes the patient to the risk of sudden death." That the only inflammatory affection wherein it may be used to advantage is chronic bronchitis with profuse secretion, which is often confounded with consumption. It has been found in this condition to relieve the pulmonary congestion and secretion thus saving strength and adding comfort to patient.

It is stated that digitalis acts partly by stimulation of the vagus end-organs in the heart, thus increasing cardiac inhibition, and partly by direct stimulation of the cardiac center in the medulla oblongata, as well as by direct influence on the heart muscle itself.

Palter believes that convallaria is safer being as it is less powerful.

So far as aconite is concerned we know it is a powerful depressant of the heart, the respiratory and the spinal system. It relaxes the inhibitory apparatus of the heart, paralyzes the cardiac muscle and its contained ganglia, the respiratory center and the spinal cord in all its functions—sensory, reflex and motor—but does not disturb the cerebrum.

It is a valuable drug carefully used in fevers and inflammatory processes. It has been called the "therapeutic lancet" and is probably to a large degree responsible for the fact that "venesection" has become one of the lost arts. A high resisting pulse, a dry and burning skin and elevated temperature can be relieved almost as by magic with aconite.

I prefer to give it in small doses frequently repeated—a half drop to a drop every ten minutes in a wineglass full of ice water. Given in this manner the patient has no knowledge of receiving anything but the ice

water, which is grateful to him. It is specially indicated in active inflammation of the throat or ear.

I certainly think it a very valuable agent as applied to the conditions present in the doctor's case—threatened inflammation of the brain due to injury.

I cannot appreciate the advantage of combining two antagonistic agents such as digitalis and aconite. On general principles I believe in giving medicines individually. We can better study and regulate their effect when given alone rather than in combination.

The well-known Dover's powder is a seeming endorsement of combinations, but the ipecac and nitrate of potash in it are not antipodal to the opium (the object of which is to allay pain) but act as adjuvants in that they stimulate the secretory system of glands interfering with the action of the opium as an analgesic or masking the symptoms produced by it.

The combining of atropia with opium or morphine is more analagous to the using of aconite and digitalis together and is objectionable for the same reason. In my judgment combinations are therapeutically and clinically objectionable.

Strophanthus was also used in this case at one time as a substitute for digitalis combined with the aconite.

Dr. G. R. Butler (*Brooklyn Med. Journal*, May, 1888,) of Brooklyn, thinks strophanthus as compared with digitalis is rather more of a cardiac stimulant than a cardiac tonic, as its effects are somewhat evanescent.

Among the untoward effects of strophanthus, vertigo, headache, mental depression and hallucinations have been observed by Thallon (*L'Union Medicale*, October, 1888). Dr. Evans of Philadelphia reports alarming symptoms in a girl of five to whom a mother had given a half hour before by mistake twenty drops of the tincture of strophanthus (*Med. Analectic*, February, 1880). The face was flushed, lips scarlet, eyes brilliant, temperature elevated, skin dry, tongue normal; pupils quivering, dilating and contracting alternately every few seconds; pulse 140, arteries distended, left ventricle contracting with unusual vigor, aortic valves closing with a loud and distinct "tup," a slight mitral regurigitant murmur; intellect clear. The child was precociously loquacious during the five hours in which the toxic symptoms were apparent.

The treatment was half-dram doses fluid extract of ipecac with copious drinks of warm water, repeated every ten minutes until the child had vomited five times, then followed with a half drop of tincture of aconite and one drop of the ipecac every half hour until the skin moistened and the pulse became normal. No urine was passed for ten hours after taking the drug.

The effects of strophanthus as detailed in this case and my own observation of it would cause me to hesitate in the administration of it to a bounding pulse and fever of threatened inflammation following severe injury to the brain.

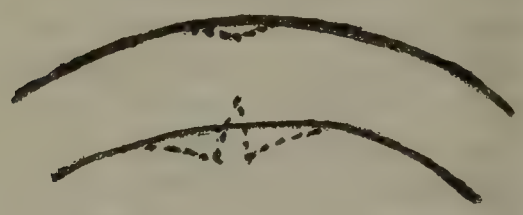
I would object to giving it with aconite for the same reason that I would object to giving digitalis and aconite together; both combinations are objectionable for the reason that, as before remarked, it is not well to bring together in intimate relations things which are antagonistic one to the other.

One should hesitate before criticising the management of cases which terminated so favorably and I do not desire that my remarks should be interpreted as a criticism of the Doctor's course. I think he is to be congratulated for the excellent management of his cases and the fortunate termination. The report was well presented and in every way a most interesting one.

Dr. Bransford Lewis.—I wish to illustrate by this diagram my reasons for differing from Dr. Meisenbach's views with reference to the justification of trephining without any concomitant symptoms of depression.

The figure represents the whole thickness of the skull bone. Now suppose the bone is injured by some direct violence, its upper convex surface yields to the force and its component parts are thereby approximated—jammed

closer together—in their process of depression, while the bony structures of the lower concave surface are extended and finally sep-



arated, producing a rupture at that site so that the most marked variation from the normal is on the lower inside surface. The want of support from the soft brain tissue further conduces to this result. Therefore if we find only a very shallow crack or groove on the surface of the skull, we are justified in trephining in the belief that the internal plate is more damaged than the one which we see. And this is so in the vast majority of cases.

This is the view first advanced by Teevan and is supported by clinical as well as theoretical grounds. I have myself seen several instances where there was evidence of only a slight injury to the external plate, and on drilling through the bone the internal plate was found to be broken and depressed quite seriously.

Dr. Meisenbach.—You must take into consideration the protection afforded the internal plate by the diploic structure lying between that plate and the external plate.

Dr. Lewis.—This protection was formerly thought to be of considerable moment, but clinical experience does not bear out this impression. Nancrede in the International Encyclopedia of Surgery says that though a fracture of the external plate may sometimes occur without involvement of the internal, in the great majority of cases the internal plate is much more extensively injured and depressed.

Another objection which I wish to make against the plan of waiting for symptoms to develop in a case is this; that a patient may receive such an injury,and have no immediate symptoms, his wound heals up and after a time he is thought to be quite recovered, but these little fragments cause a chronic, though at first very slight, irritation of the meninges of the brain, resulting later on in chronic localized meningitis with a formation of cicatricial deposit there. This increases until finally its deleterious effects are manifested by the appearance of convulsions or fits, slight at first, may be more severe afterwards. But the patient thinks they are nothing, that they will pass off after a time spontaneously or at least under the influence of treatment. He goes on in this way until the epileptic habit is firmly established, and there is organic involvement of the nervous centers. This condition is vastly more difficult to combat than before the trouble had extended from the site of the injury, in fact, experience has shown that trephining at this stage of the disease affords very little hope of a permanent benefit. The epileptoid attacks may cease for a time after the operation of trephining, but they nearly always return after a few weeks or months. So in that way we have failed to grasp the opportunity when it was offered, of making a permanent cure of the case, whereas by the other method, if it is carefully carried out and with the strictest antiseptic precautions, there is really little danger connected with the operation.

Dr. William Porter.—The discussion proprosed for to-night was not the general surgical treatment of fracture at the base of the skull, but the effect of certain agents in reducing the blood tension often resulting from such fracture.

Dr. Broome spoke of using digitalis and I have thought it well to add a suggestion as to the method of administration of this drug, and to mention two of the several proposed substitutes recently offered to the profession.

In the minds of many physicians, almost any unnatural action of the heart,whether due to organic lesion or functional, suggests digitalis. It is probably now as it has been for years, our most reliable heart tonic. That it is indicated in all cases of heart failure may be true, and yet it is not the best remedy in

all cases of cardiac disturbance, or even in diminished heart action. One of the best rules for the administration of digitalis has recently been given by Dr. James Stewart. He believes that in cases of heart failure too far advanced to admit of treatment by exercise the best results follow rest, limitation of liquids, and full doses of digitalis.

In passing I would say, that well conducted exercise of such nature as will best develop the cardiac muscle and promote compensatory hypertrophy is the best agent for overcoming many of the heart disturbances, which we find in early life. Of necessity such exercise should be conducted judiciously. Over-exertion is always harmful, but scarcely more so than the sedentary inactive life which is so often the course marked out for the unfortunate patient who in his youth discovers that "something is wrong with his heart."

To return to the subject of digitalis we find that one of the first sequences of heart failure is lessening of blood pressure in the arterial system diminished vitality and reduction in the quantity of urine soon following. When digitalis is given the heart's action is increased, the arterial pressure restored and more urine is secreted. It is now suggested, and the warning is an important one, that when the amount of urine becomes less, after an increase under digitalis, the administration of the drug should be stopped. The heart no longer responds to the stimulus, and a continuance would be dangerous.

Strophanthus is another remedy that has obtained much commendation of late. I cannot think that it will ever supplant digitalis, acting as it does more upon the cardiac muscle, and less upon the arterial system. In my own experience I have found that it acts more quickly than digitalis, and its effects less continued. Yesterday I prescribed strophanthus in a case of exopthalmic goitre that had been doing very well under the use of digitalis and ergot. The patient had become tired of the digitalis and the strophanthus was ordered, two drops every three hours. After the third dose the heart action was violently increased and six hours later, the medicine being withheld, the heart resumed its former weak and somewhat irregular pulsations.

I believe that strophanthus may be used in cases where we desire a rapid cardiac stimulation to bridge over an immediate danger, but for continued effect the digitalis is certainly more reliable and its effects more definite. Dr. D. E. Brower has had very satisfactory results following the use of strophanthus in exopthalmic goitre, combined with tonics and galvanism.

Another remedy has been strongly recommended as a heart tonic is the cactus grandiflora. In a communication to the *Med. News* Dr. C. L. Gregory says that he has used cactus gradiflora for the past 15 years, and believes that where dilatation has outstripped the compensatory hypertrophy it is a more satisfactory remedy than digitalis, and in functional valvular disease it is the only drug he uses. Says Dr. Gregory: "When there is a fault in the cardiac innervation, the heart's action being tumultuous, irregular, intermittent, feeble, the patient nervous, restless and dreading some impending danger, the continued use of cactus will almost invariably give permanent relief." The dose recommended is from one to five drops of the tincture of the fresh plant every two, four, or six hours.

Very recently my friend Dr. W. R. Mackenzie, of Chester, Ill., spoke to me of the good results he had obtained from the cactus, in the use of which he has had considerable experience.

Hellebore has been brought into increased prominence of late through the researches of Dr. Christovich. The fluid extract of helleborus viridis has a yellowish color, a very marked bitter taste, and a specific gravity of 1097. We read in the *Revista de Ciencias Medicas de Barcelona* that Dr. Christovich, after having performed a great number of experiments with this extract upon dogs and frogs, employed it as a remedy in 11 cases of heart disease. Following is a resume of results:

1. The drug increases the cardiac contrac-

tions, reinforces its action, and enlarges the fulness of the pulse.

2. In cases of a violent action of the heart, a lessening of this morbid activity was observed.

3. Congestions of the lungs, liver and kidneys, were dissipated and relieved.

4. The urinary secretion was increased.

The dose was from 10 to 20 drops of a 1 per cent. solution of the extract, given four to six times a day.—*La Gaz. Med.*

Dr. Meisenbach.—Dr. Lewis has taken exception to what I stated in regard to trephining cases where the external table is depressed without the concomitant symptoms being present. It seems to me that this would be heroic surgery. If we are to suppose that the conditions may occur without the symptoms being present, we may suppose that the same conditions may appear in other conditions of the body as to justify us in operating. I know that it would be unwise to place the life of the patient in jeopardy by interfering when by being a little more conservative he may get along without such a procedure. As to the fact of trephining being a minor surgical operation, it may be so under the present antiseptic methods, but if thorough antisepsis be not carried out it may be a very grave one. How do we always know that we have thorough antisepsis? We know that the diploic structure of the skull is very apt to absorb septic material and it requires the most extreme care to avoid this. Many of us have seen injuries of the skull where there was denuded periosteum, absorption of septic material and death was the result. I fully endorse the operation where it is justifiable and believe there are a great many cases where the skull is not trephined when it should be.

Dr. Love stated that the escape of cerebrospinal fluid is not dangerous. The question arises, is this always true? It seems to me that the escape of this fluid is an important factor in the lethal results. In case of spina bifida where the tumor is ruptured and the cerebro-spinal fluid escapes, the inevitable result is death. In such a case there is no injury to the base of the skull, the death depends upon the escape of the fluid. Physiology teaches us that the function of the cerebro-spinal fluid is that of maintaining an equilibrium between the blood-pressure of the brain and spinal cord. The moment that the blood pressure is taken off there is no governing power of the minute circulation of the spinal cord and brain, the counter-pressure is taken off and as a result stasis takes place and death occurs.

Dr. Y. H. Bond.—To concede the wisdom and propriety of threphining in all cases in which there exists evidences of fracture of the outer table of the skull compels us, in the absence of symptoms of compression, to acknowledge that such indications of fracture of the outer table carry with them the evidence of depression of the inner table, with a degree of constancy and uniformity, that is almost invariable. And in the second place the depression of the inner table over every portion of the surface of the brain, must be accompanied with results that are seriously detrimental to the health, and the continued proper function of the brain. We must assume that there could not occur that degree of condensation of the bony structure of the skull, that would permit the external depression, and yet not be followed by internal depression. I think that the skull may in rare instances be condensed and thereby depression of the inner table be prevented. I don't believe that depression of the inner table is so uniformly a result of simple fracture, that simple division in the outer table, will justify a resort to trephining, unless there co-exists symptoms of compression. Practically, in dealing with cases of fracture of the skull, we have two conditions to contend with: it may be that we have to deal with the immediate results; there may be compression existing at the time; blood vessels may have been torn that have led to the escape of blood; a blood clot may produce compression; displaced bone may produce it, and of course in such conditions immediate action is called for. On the other hand we meet with a class of cases, in which the evidences of compression are

absent at the time; the symptoms of concussion are present, and persist for a certain length of time. The danger point lies in the establishment of reaction. The brain tissue has been so shaken, the circulation so disturbed, that when active reaction takes place, and the brain becomes full of blood, there is danger of a rupture of the blood vessels of the brain tissue; then we may have symptoms of compression, the compression not being the result of hemorrhage without the brain, but within the brain, and it is in this class of cases, that the principles of treatment as enunciated by Dr. Broome would have their chief application. If we can guard against edema of the brain; if we can guard againt rupture of the blood vessels of the brain, by means of arterial sedatives, I think that much can be accomplished, and it seems to me that it is only in the class of cases referred to that much good is to be expected from them.

Dr. Elsworth Smith (by invitation).—I would like to ask the gentlemen who are opposed to trephining where there are no spmp toms of compression, whether it would not be justifiable to trephine as a prophylactic measure, simply for the prevention in the future of epileptic attacks, which so often follow such injuries?

Dr. G. W. Broome.—The belief is forcibly impressed upon me that there is a misconception of my paper existing among you, and I should like to ask the gentlemen to read it. I fear that Dr. Fry is responsible for the length of the discussion, I cannot pretend to reply the many points that have come up; but I have been very much gratified and edified as well, over the discussion, especially with the paper of Dr. Love who seems to have a clearer conception of the paper than the others. The propositions in my paper simply covered a recital of the relief obtained in two cases and these cases were typical in so far as fracture through the petrous portion of the temporal bone is concerned. As I dealt with these cases I passed over the stage of shock. I perhaps did not refer to one principal and prominent symptom, that is paralysis of the side of the face, in consequence of the impingement on the 7th pair of nerves.

In concluding my short paper, in which the reports of the cases were so hastily thrown together, I advanced the conclusion, that during the congestive stages, or reparative stages, the proper thing to do was to relieve the brain of the pressure of the blood, when it was not relieved by hemorrhage, or by a free flow of cerebro-spinal fluid. To apply our cardiac sedatives is a good rule. This led us to the application of the remedies which I used. I will state that there were two cases. One was caught between two flat cars loaded with railroad iron; the engineer backing up the forward section of his train the iron caught the patient at the base of the skull, through the ears, cutting off one of them. He fell unconscious, and following that were the symptoms described.

The other case was an individual who was caught in the new Commercial building between the elevator and the side-rod of the frame work, breaking the petrous portion of his left temporal bone. These conditions of shock to which you have referred were present in his case, but I simply wanted to emphasize the fact that when nature failed to relieve hemorrhage it was your duty to quiet the heart, and that the remedies to accomplish this were digitalis, strophanthus and aconite. I prefer aconite. I used strophanthus because it is a cardiac sedative. Hutchinson, who is an eminent authority, has used it for the purpose of exerting a calming and steadying influence on the heart.

Dr. Love voiced my sentiments exactly with regard to aconite, that it is a substitute for the lancet. It is the most powerful cardiac sedative that we have, and you cannot, I think, produce any good authority that does not state that digitalis is a cardiac sedative.

Dr. Love.—In regard to Dr. Meisenbach's criticism I would say that I am sure there is authority for the statement, and the case that Dr. Thomson recalls certainly justifies my position. And even the case that the doctor cites of spina bifida; we know that they have been opened and allowed to drain themselves indefinitely. I feel sure that there is authority that justifies my position.

The fact that Dr. Broome's patients got well is the endorsement of his treatment. But on general principles I think the combining of antagonistic drugs is objectional.

Dr. Porter.—There is no better authority than Dr. Langard upon this subject. Speaking of strophanthus, he says that it is to be preferred when stimulation of the heart is necessary, not even for a moment doubting the proposition that it is a heart stimulant. Strophanthus is certainly spoken of not only as being a heart stimulant, but also a quickly acting one. The case which I reported is a similar one to those in which others have given it, and there was no mistake in giving it. I quoted it simply to illustrate that the action of the drug is transient. Brower, in a most interesting research, recently published, has followed up the same subject, and shows that he considers strophanthus as a remedy in exophthalmus.

Dr. Meisenbach.—I would simply answer Dr. Smith's question by analogy; take a compound comminuted fracture at the ankle, where the arterial circulation is intact, we would be just as little justified in performing amputation there because gangrene had arisen in other cases as we would be in trephining where there were no positive symptoms. The same way in the case pleurasy; we would not be justified in taking out a rib simply because other pleurasies had developed pus.

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The Philadelphia *Ledger*, Feb. 16, says that the morphine habit has become so prevalent in San Francisco as to give rise to a peculiar slang applying to it and its votaries. The latter are called "morphine fiends," and the process of hypodermic injection is called "taking a shot." Hospital surgeons say that the morphine habit is increasing rapidly, and that most of the victims were initiated in Chinatown. One of these officials estimates that 60 per cent of the petty offenders sent to the receiving hospitals of the city prison are victims of the morphine habit. Cocaine is so expensive that few acquire the "habit." —*Med. and Surg. Reporter.*


# WEEKLY MEDICAL REVIEW,

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## Physiological Action of Sulphonal.

Clinical information concerning the action of sulphonal has accumulated very rapidly. In fact there are few remedies, even of recent discovery, whose value and scope have been so quickly established by abundant data of a satisfactory and reliable kind, perhaps none other. But the published investigations, of its action have been thus far almost wholly clinical. Hence we read with much interest the results of some physiological experiments recently made in the private laboratories of Dr. Ott, of Pennsylvania, and reported by Wm. F. Shick in *The Journal of Nervous and Mental Diseases*, January, 1889. They consisted of 25 separate experiments made on rabbits and frogs. Although exceedingly interesting we cannot recount them in this connection, for they are so painstaking and full of detail that it would cover much space to do so.

In the first series of four experiments made on rabbits, to which the drug was given in capsules received into the stomach, and by subcutaneous injections, it was proved that sulphonal by the stomach acts, very slowly on account of its insolubility, that the subcutaneous warm solution of sulphonal is much more active.

Experiments, xix, xx, xxi, xxii, performed on frogs, are perhaps the most interesting as furnishing data of clinical adaptability. "They demonstrate that upon the heart sulphonal has but little activity, usually slightly increasing its rapidity. As to arterial tension, immediately after the injection (of a

warm solution) by the jugular, it is decreased; afterwards, however, it is increased considerably; the opposite case happens with chloral."

The conclusions reached from all the experiments are as follows:

1. It does not affect the irritability of the motor nerves.

2. It does not alter the muscle-curve.

3. The sensory nerves are left intact.

4. It depresses reflex activity mainly by an action on Setschenow's centers; occasionally it exalts reflex excitability. [Setschenow's centers are located in the optic lobes of the frog. When irritated, as by bringing in contact with them a solution of sodium chloride, there follows a depression of reflex activity. Similar centers are supposed to be located in the corpora quadrigemina and medulla of the higher animals, including man].

5. It acts as a narcotic.

6. The pulse is usually somewhat accelerated.

7. The arterial tension, after a temporary fall, is considerably increased.

8. Respiration is depressed, section of the vagi does not alter the effect.

"These facts lead me to believe that sulphonal will replace chloral to a considerable extent. The well known dangerous action of chloral as to the heart and respiration is avoided with this drug, and if the narcotics effects are equal sulphonal should have the preference."

Speaking of the dose for man the writer says: "The ordinary dose of the drug is about 30 grains; and 15 grain doses, according to Kast, are large enough for women. Forty-five grain doses have been given without unpleasant effect, though a drachm produced a deep sleep, lasting from 8 to 12 hours, followed by a staggering feeling on the following day.

"Rasin found 30 grains equal to one-sixth to one-quarter grains of morphia. Rabbas claimed that doses of four grammes, alternated at short intervals with doses of two to three grammes, are harmless. Schmey found that two grammes in a case of angina pectoris produced no sleep, but aggravated the condition of the patient." F. R. F.

## Mind Reading.

A favorite method with persons who claim ability to read the thoughts of others, is to ask the subject to concentrate his mind on some tune or object which the mind-reader then proceeds to play or draw, as the case may be. Mr. Bishop has recently given a number of apparently successful demonstrations of this kind in St. Louis and elsewhere. In England, results satisfactory to the investigating committees have been reached by Smith and Blackburn.

So much fraud has already been exposed in all sorts of spiritualistic and thought-transfer seances, that persons giving demonstrations of this character must expect their results to be looked upon as trickery unless they are absolutely incapable of explanation on this supposition. The burden of proof, perhaps somewhat unjustly, falls upon the demonstrator, rather than the public, which is sure to be either incredulous or over credulous. The chief result expected from the societies now investigating this phase of psychology is the exposition of everything calculated to permit fraud by the keenest-witted medium. If mind-reading is a reality, mind-readers must greet such studies as directly needful to the principles they try to demonstrate; if it is jugglery, there is no reason why the public should be expected to believe more than that the demonstrator is possessed of sharper wits than most people rejoice in.

At first sight it appears very remarkable that mind readers should in a considerable percentage of cases divine the time or object thought of a by subject, even though he may be in possible collusion, conscious or unconscious, with the principal. During the past year Dr. C. S. Minot, of Harvard Medical School, issued a large number of postal cards, such bearing the printed request: "Please draw ten diagrams on this card without receiving any suggestion from any other person, and add your name and address." In a recent report to the American Society for Psychical Research, the results of this step

are presented in the form of a careful analysis of the 501 cards received back.

Far from selecting from an infinite number of possible objects, the majority of the persons who responded drew either simple geometrical diagrams, such as our minds are full of, or objects within sight or connected with the profession of the individual. Hence the number of things likely to be thought of by a subject is limited, a fact undoubtedly well known, if not analyzed, by the percipient. The proportion of errors in determining the particular one thought of is, therefore, relatively very much greater, and the possibility of collusion between the percipient and the subject or some other person who knows what has been thought of, is also relatively much greater than has been supposed. The number of tunes from which a selection is likely to be made is equally limited, and the possibility of fraud equally great, since the number of signals for conveying intimations of the selection is not necessarily very great.

Without any individual charges of fraud, the conclusion reached by the American Society is perfectly just, that the hypothesis of fraud still remains tenable, and that unless it is met adequately, persons of cautious judgment must consider that the explanation of success in the reproduction of drawings (or the divination of musical compositions) is more probably fraud than super-sensuous thought transference. W. T.

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## Maternal Impressions.

Monstrosities of almost every conceivable shape have been reported in medical literature. Many of them have been clearly attributable to simple arrest of development, just as cleft-palate, hare-lip and like conditions are known to be, but in a goodly number the resemblance of the products of conception to certain objects, which by accident have caused extreme fright in the mothers, is so striking as to make it a difficult matter to prove that there is nothing in maternal impressions.

At a recent meeting of the New York Pathological Society (*Med. Rec.*) Dr. E. C. Spitzka presented a specimen which had been sent him for examination by Dr. Wm. P. Lowman, of Orangeburg, S. C., who had been called to attend a colored woman with the following history. When she was about two months advanced in pregnancy, while passing through some woods, she suddenly came upon a buzzard, who, having caught a pig, had devoured the greater part of its head. She was greatly startled, and was almost immediately attacked with uneasy sensations in the hypogastrium. Two weeks later these culminated in violent parturient pains. The doctor was called in at this juncture and learned the above facts. He diagnosed incipient miscarriage, which he succeeded in preventing. One month (twenty-eight days) after this severe pains set in again, and the contents of the uterus were expelled. Fortunately, Dr. Lowman was called in, and his careful examination led to the discovery of a remarkable body, which on first sight struck him as resembling the body of a bird, about the size of a robin, but lacking the head. Even the skin resembled that of a plucked bird. The umbilical cord was normally attached, and the placenta—about two and one-half centimeters in diameter—also appeared normal. The feet presented a spread claw-like appearance, imitating a bird's foot even to the subsidiary posterior digit with its long claw.

The monstrosity was in every respect a maldeveloped human fetus. The shape of the bones where exposed, the formation of the ribs, the minute characters of the articulations, and the disposition of the fetal membranes, all left no doubt upon this head. Nevertheless, the surface resemblance to a decapitated and plucked bird was very great. The skin everywhere, except at the points of the extremities, presented the "goose-skin" appearance. The neck was long, bent over, ventro-lateral, and its terminal tissue appeared to be rounded off smoothly. The upper extremities terminated at the distal humeral end, which was covered by a membrane continuous with the subcu-

taneous tissues. The disposition of the thighs and legs was marvellously bird-like, particularly in the contour of the muscular masses. The feet were human feet, exhibiting a tendency to syndactylism; but on the left foot was a claw, set back as in the bird's foot. The back of the monstrosity was prolonged into a caudal extremity very similar to what is seen in a bird. The rudimentary anterior extremities were so applied against the sides as to require no great stretch of the imagination to see in them the wing-bones. The chest also resembled almost exactly that of a robin.

Dr. Spitzka remarked that this case fulfilled one of the conditions demanded by the disbelievers in maternal impressions, namely that the woman should have related her impression before the delivery of the fetus. An interesting speculation might be indulged in regarding the unconscious psychological process and impression, which combined the impression of the bird, which had its head, with the headless character of the pig. It may be also questioned whether the—to a woman—familiar figure of a plucked bird was superadded. The case, the speaker said, offered a valuable and unimpeachable record of a manal impression.

In this connection it will be interesting to our readers to review an exhaustive article on "Arrest of Evolution vs. Maternal Impressions," by Dr. Arch Dixon, of Henderson, Ky., in the Review of Feb. 11, 1888.

Dr. Spitzka said he did not know how maternal impressions acted, but that the cumulative evidence in support of the opinion that they were efficient factors in the production of monstrosities, in certain cases, was too strong to be gainsaid. There has been sufficient evidence adduced to prove to the satisfaction of many that mental impressions can be transmitted from one person to another through a simple touching of the hands, or even through the atmosphere, without the intervention of language. Then again, cases are being reported almost daily in which certain pathological changes are effected by suggestion, showing the influence of the mind upon the body. These facts being known is it not rational to suppose that, in cases of extreme fright in which there is a rapid evolution of nerve-force, it may be transmitted to the fetus in utero and produce a profound impression upon its rapidly changing cell-life?

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## The Actual Cautery In Diseases of the Eye.

Varying conditions in disease, as well as the varying methods of the application of remedies, produce such contrary results as to cause each physician to accumulate a list of remedies with which he obtains the best success. This is especially true of those remedies in which manual dexterity plays an important part. Many excellent methods of dealing with abnormal conditions of the body are placed before the profession with the endorsement of leading men, are given a trial and abandoned as "fads," except by a few who meet with the proper conditions and succeed in acquiring a just conception of the manner in which the remedy should be applied.

The use of the cautery in the treatment of diseases of the eye, is no exception to the rule that few remedies produce a definite effect under all circumstances. For this reason it is popular with a few and regarded as worthless by many. In the treatment of serpigenous ulcers of the cornea if cautiously but thoroughly applied it proves to be the best remedy that we have. A recent writer says of it: "If used too freely it will do harm, or if not sufficiently, the results will be disappointing." I regard the actual cautery —a probe-pointed platinum wire heated in a spirit lamp to a red heat—as superior to either the thermo-cautery or the electro-cautery. I do not think the anterior chamber should be evacuated ever by the use of any kind of cautery. If it is desirable to lessen the tension of the eye by allowing the aqueous to escape, this should be done gradually, by inserting the point of a Graefe knife. The great advantage of the actual cautery is that the danger of burning through all the layers

of the cornea is reduced to a minimum, and the danger of prolapse of iris, anterior synechise, iritis and detached relina is proportionately less. It matters not how delicate an operator is in his manipulations, there is always danger of destroying healthy corneal tissue is using either of the other cauteries mentioned. The objection urged by some that it is less convenient is of minor importance; the surgeon who must needs operate so rapidly that he can't wait a few seconds to heat a platinum wire may benefit some of his patients but he is very liable to injure others.

In a recent number of the *Brit. Med. Jour.* Mr. Richard Williams reports three cases of conical cornea successfully treated by the use of the actual cautery as I have described it. Useful vision was preserved in each case. It is well-known that keratoconus is an affection that tends to increase till the vision of the eye is of little value. In writing of the operation he said: "I hold that complete penetration of the cornea with discharge of the aqueous is a result to be avoided as unnecessary and dangerous, and believe the same object as regards reduction of conicity can be attained without the escape of the fluid."

## NEWS ITEMS.

The twenty-third pregnancy of a woman in Edinburgh, Scotland, took place after she had reached the advanced age of sixty-two. She had been pregnant at the ages of 47, 49, 51, 53, 56 and 60.

The editor of the *Med. and Surg. Reporter* reports a case in which an optician prescribed "rest glasses" for a patient who was suffering from inflammation of the optic nerve. The glasses were changed for other "rest glasses" several times, and not until the patients vision was reduced to counting fingers at five feet was she allowed to apply to an ophthalmologist.

Continuing, the editor says: "Some opticians affect an air of philanthropy as they exclaim against the high charges of the skilled oculists. But this is a shallow subterfuge: for the charges of oculists vary with the circumstances of patients and those who cannot pay can get their eyes examined for nothing if they wish."

"How far the rights of a dealer to sell his wares would protect an optician who combines with his business the custom of examining the eyes and otherwise imitating the regular methods of legally qualified practitioners of medicine, it is hard to say; but it would be interesting to have a test case brought before one of the courts."

The Cooper Medical College, of San Francisco, now requires a matriculation examination and attendance upon three regular courses of lectures before graduation. In 1888 its per cent of graduates was quite respectable, being a little less than fourteen per cent of the one hundred and four matriculates.

The *Brit. Med. Jour.* gives an account of a most extraordinary accident from which a young lady lost her life. While riding in a railway train she became sick and put her head out of the car window and was struck by a leather mail pouch. She was stunned but quickly recovered from the effects of the blow. After riding some distance she again became sick, put her head out of the window and was struck by another mail pouch. She was rendered unconscious, and did not rally, dying some hours later.

Drs. Otis and Brewer, of New York, have challenged Dr. Robert Newman, of that city, to prove by practical demonstration that electrolysis is of value in the treatment of stricture of the urethra. The challenge has been accepted and arrangements will be made for an impartial test.

Dr. E. S. McKee, of Cincinnati, has accepted a challenge to prove that success in the treatment of pelvic diseases by Apostoli's method of using electricity, depends upon a proper application of the agent.

The results of these tests, if they are suf-

ficiently thorough, will be to prove whether or not electricity is of value in the hands of experts, in the treatment of the classes of diseases mentioned. If the results are negative they will go far to put an end to these much disputed questions.

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An English judge in rendering a decision in behalf of a surgeon who had sued for a consultation fee, said: "Many persons of the better class hold the idea that it is medicine doctors are paid for. It is skill." A Kentucky physician on one occasion, was called upon to itemize his bill, and he wrote: "For one visit, three dollars; for medical skill, sixty-two dollars, total sixty-five dollars."

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Prof. Charcot, of Paris, is to publish, at an early date a paper fully describing his method of suspending patients by the heels for relief in cases of tabes dorsalis.

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The American Biographical Publishing Co., Philadelphia, Pa., are printing a work entitled American Resorts, with notes upon their climate, by Bushrod W. James, A. M., M. D.

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"Cycling as a Therapeutic Agent" is a subject that is going the rounds in medical literature. It has an attractive feature in that it is novel. A French enthusiast has issued a pamphlet (*Med. Age*) in which he makes "a strong plea for the bicycle as a means of relieving the ills that sedentary flesh is heir to." One decided objection to the constant use of the bicycle by boys is that they are liable to acquire a stooping posture.

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Comparatively few physicians appreciate the efficacy of steaming flannel cloths applied to the surface of the body for the relief of pain. The only objection to the remedy is that it requires constant attention. In scarlet fever in children, when pain in the lumbar region is severe, relief can nearly always be obtained by the use of hot cloths.

## SOCIETY PROCEEDINGS.

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### MEDICAL PRESS AND LIBRARY ASSOCIATION.

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Stated meeting, March 2, 1889.

Dr. Bransford Lewis presented a specimen. (See p. 262, last week.

Dr. A. H. Meisenbach.—The case presented by Dr. Lewis is of a kind commonly met with in old men, and to which certain temperaments or diatheses are peculiarly liable, especially the gouty diathesis. These cases are very troublesome to manage. That portion of the prostate which usually impinges on the lumen of the canal in the middle lobe in this case does not seem to be as much enlarged as we sometimes find it.

The nodules presented may be very numerous, encroaching on the canal. They may present the aspect of little mountains crowding into the canal, and this is one of the great obstacles in passing the catheter. When enlargement of the prostate begins so as to hinder the thorough evacuation of the bladder, the secondary symptoms come on, as has been very clearly described by Dr. Lewis. The patient may have cystitis, pyelitis, nephritis and other complications.

The point of great importance in practice is, what can be done for these cases? My experience has been that under the best plan of treatment patients dc poorly and the result eventually is death. The proper procedure, when the case will permit it, is an operative one, either the performance of suprapubic prostatectomy and ablating the offending lobe that juts into the urethra or by a perineal cystotomy.

Sometimes the passing of the hard catheter forcibly will have an analogous effect. The last case in which I did this recovered, and is now doing passably well. The patient was taken with retention of urine. Rectal examination revealed a greatly enlarged prostate. I attempted to pass a soft gum catheter, but I could not get by the curve to which Dr. Lewis has called attention. I then tried an articulated or spiral prostatic catheter, but

did not get that in. Finally I took out of my pocket-case an ordinary metal catheter and forcibly crowded it into the bladder. After withdrawing it I found that I had set up a profuse hemorrhage, which seemed to be followed by a beneficial effect, for in a few days the patient was able to void his urine. From that time the ability to void urine became greater, and he passed it without the use of the catheter. He recovered and I saw him only a week ago and he was then in as good health as he had been for the last two or three years. The obstruction occurred one year ago. The majority of cases do not have such a favorable termination; after catheterization, the symptoms of cystitis generally supervene, accompanied with fever, and in all probability, if you are able to get a post-mortem you will find that the kidneys are implicated.

A German physician not long since advocated in the journals the idea of resection of the pubis in order to get more space in operating on the fundus of the bladder. He resects the anterior arch, cuts through the pubes and rami, turns them back, and thereby is enabled to get at the bladder. By simply opening the bladder over the pubes in superior cystotomy, in many cases, one may not have sufficient room to work.

A very lamentable fact is that in private practice it is hard to get the consent for operation. The patient and his friends think that he has reached his end, and it would be cruelty to inflict on him any operation. In two cases that came under my observation in the last two years the result was fatal. I wanted them to allow me to perform cystotomy, but they would not allow it, and both cases died.

Dr. George W. Broome.—With reference to the treatment of the irritable prostatic urethra, that is, in the early stage of this affection, one of the methods which affords the greatest relief is that of depositing cocaine with one of the recently devised instruments in the back portion of the urethra, and after that has been done the use of nitrate of silver solution in the same locality. It is a very formidable affection, particularly in the senile period of life. In the case Dr. Lewis reports, the operation he proposed would not have been justifiable, as there were so many complications. It has suggested itself to me that possibly a good plan might have been, if he had effected an entrance to the bladder with the catheter, to have allowed it to remain there; or by means of Holt's dilator to have divulsed it, and after that kept up forcible catheterization; otherwise I see but little that could have been done.

Dr. F. R. Fry.—Two cases have recently come under my observation which confirm Dr. Meisenbach's idea of the benefit that incidentally happens from a free hemorrhage, following the introduction of catheters. In both instances the gentlemen were over 75 years of age. In both, on account of the size of the prostate and the feeble condition of the patient, much trouble was expected; but in both there was free hemorrhage at the first attempts at catheterization, and both were relieved very much and are doing well to-day, passing their water without the aid of the catheter. The hemorrhage was so free in one case that we were alarmed. But it seemed to have relieved the congestion to such an extent that the trouble has been at least temporarily relieved.

Dr. Meisenbach.—It is especially beneficial where the middle lobe projects out, and you forcibly perform ablation, and besides you get the beneficial effect to be derived from the hemorrhage.

Dr. Y. H. Bond.—As Dr. Meisenbach has stated, these cases occur in old persons when they are so far advanced in years that they and their friends are opposed to any operative measures, arguing that their tenure of life is a short one anyhow. And it is, to me, a serious question whether under the circumstances any decided operative measure should be instituted, since usually before such patients apply for relief, the constitution has become seriously impaired, and complicated affections superadded, they are not in a condition to bear a serious operation, and death is likely to follow as the direct result of such

a procedure. We know that no condition is more serious than that of a burrowing abscess from a prostate gland, with urine dribbling into the abscess opening, and most operations of a cutting nature are liable to result in an abscess about the prostate gland, under such circumstances. It occurred to me in examining this specimen, that perhaps electrolysis might have offered some relief in this case had it been tried before the secondary troubles supervened. The point of action of the electric current would have been at the lower segment of the circle of obstruction, and that would have been the most desirable point at which its action could have been applied. That there is something in the observations and the method of practice of Robert Newman by electricity in urethrel obstructions, I am thoroughly persuaded, notwithstanding the fact that they have been assailed on all sides by excellent men. I am satisfied from observation that where the galvanic current is applied in certain cases of stricture of the cervix uteri, much good is accomplished in enlarging the capacity of the cervix; if such is the case in a canal where you can plainly see the result, it is fair to conclude that the same obtains in the urethra.

We sometimes have pyelitis occurring in females, and in reference to this I remember to have read a paper by Dr. Bozemann in which he detailed a method of treating pyelitis in females. It was novel and radical. It consisted in making an opening into the bladder through the vagina, reaching the ureters, through them washing out the pelves of the kidneys daily or oftener. I don't believe that this method has been used by any one except Dr. Bozemann. He reported good results from the practice. That it is a feasible one, we know from the fact that he advocates it. Whether anything can be accomplished by making an opening above the pubis in the male and entering the ureters in that direction I do not know, but I am quite sure that in the female such is possible. If you will refer to the proceedings of the International Medical Congress, you will find Dr. Bozemann's article and report of cases.

Dr. Meisenbach.—I would like to ask whether or not it is difficult to pass the catheter into the ureter through the opening in the vagina. On account of the improvements in the cystoscopes made of late, this might be facilitated considerably I should think.

Dr. Bond.—There is a little caruncle that acts as a guide for the introduction of the catheter. A Scotch physician has resorted to the practice of dilating the urethra and washing out the kidneys by that means.

Dr. Bransford Lewis.—In answer to Dr. Broome's suggestion that it would probably have been better to have left the catheter in the bladder in case entrance could be effected, I would say that I do not agree as to the advisability of this procedure, for the reason that in these cases of enlarged prostate with resultant cystitis, the bladder and urethral mucous membranes are very intolerant of the presence of any foreign body whatever, not only of such a character as a catheter, but even of any considerable amount of urine, especially if it be alkaline and therefore of an irritating character. It seems to me that the better plan is that which was carried out in this case, that of frequently withdrawing the urine with the catheter and washing out the bladder afterwards with boric acid solution, leaving some of it in for the purpose of mitigating the irritating properties of the urine. At the same time internal medicines, such as benzoate of soda, should be given to render the urine acid. If such a severe operation as divulsion with a Holt's dilator becomes necessary in such cases, I believe that an incision into the bladder would be less likely to be followed with serious results, because the dilator would cause laceration of the urethral tissues leaving access for the absorption of septic urine to cause urethral fever. And urethral fever would be more liable to occur under such circumstances than if free drainage were given through a perineal opening.

As to Dr. Broome's suggestion that the early stages of this condition be treated with instillation of cocaine and afterwards of nitrate of silver solution, I can readily believe

that such a treatment would be very beneficial. I have made use of the same thing in acute and subacute cases of irritable and congested prostates in young men, the condition arising, for instance, from venereal excesses and dissipation, but I have never used it in those cases. I shall be glad to try it when the opportunity presents itself.

Dr. Bond questions whether it is advisable to operate on those patients, reasoning that they will die soon anyhow, and they should, therefore, not be subjected to the risks of such a severe operation. I cannot agree with him in this conclusion. Numerous cases have been reported of late years in which such an operation was performed when the patients were in the very lowest states of misery, and even seemingly in the last stages of the disease, where the operation was followed by complete relief from the harrowing symptoms, health was regained and their miserable lives were made not only endurable, but enjoyable. With a knowledge of such unquestionable facts before us, I think we can but advise such operative procedure where we think there are no renal or other complications present which would be liable to cause death as a direct result of the operation. As I mentioned in my notes, the complications in this case decidedly contra-indicated any operation here.

Burrowing abscess in the prostatic region occurs just at a time when there is not free drainage that a perineal cystotomy affords. And when such abscesses do occur, this very treatment of perineal section is the one that gives the best results. Moreover, I believe that such an operation, if properly managed, would never give rise to a burrowing abscess in this neighborhood.

The treatment of enlarged prostates by means of electrolysis is still in the experimental stage. Dr. Casper, of Berlin, has practised it by inserting a needle insulated, except at the point, into the prostatic tissue, then turning on a current and in this way endeavoring to cause absorption and contraction of the tissue. I have tried this plan in two cases in the hospital, obtaining a dubiously beneficial result in one and an ischio rectal abscess in the other. So I am not very enthusiastic in its praise. This tendency to the formation of abscess in this loose cellular tissue is just the objection urged by those who have used the method more extensively.

On the other hand I must say that from the results of some cases of stricture in which I have used Newman's apparatus and method I am very favorably impressed with its possibilities, in at least some cases, probably not those of very old, with abundant deposits of cartilaginous cicatricial tissue. As to permanent results, I can not, from experience, form as yet any conclusion, as I have been using it only during the last six or seven months. In one of my earlier cases I enlarged by that means a stricture which at first would not admit even a No. 11 French, up to No. 28. I have done nothing to the patient for about five months, and he still passes a stream that is worthy of any man. Another patient who had had gradually increasing difficulty in micturition ever since receiving a direct injury to the urethra by a fall across a board 22 years ago, came to the hospital two months since. He then said that for the last two years he had been compelled to get up every night five or six times to pass his water and the latter passed only by means of rapidly falling drops. Two strictures—decidedly not spasmodic—were found at the bulbo-membranous junction. Six seances have fixed him so that he can pass an excellent stream now, well projected, and he does not get up at all in the night to pass water. I have treated other cases with results varying from good to mediocre, depending, it seems to me, on two conditions, the skill of the application—because now I am getting better response to the treatment than I did at first—and on the character of the cicatricial deposit. The more cartilaginous, the more obstinate is the resistance to the treatment. I believe, too, that the superficial yield less readily than the deeper strictures.

## THE BALTIMORE ACADEMY OF MEDICINE.

Stated meeting Feb. '89, thePresident, Dr. Henry M. Wilson in the Chair, A. K. Bond, M.D., Secretary pro-tem.

Dr. T. A. Ashby made some remarks upon the use of electricity to facilitate dilatation of the stenosed cervix uteri by the passage of sounds. He exhibited a simple apparatus which he had contrived for this purpose—a common sound insulated by a rubber tube and fitted for the attachment of battery wires. He had tried this method in only one case, but had met with such success that he thought it worthy of further trial, the stenosis yielding much more rapidly then when no current was used. Twenty-five milliamperes was the greatest strength of current applied. He used the positive pole for the uterus and the negative on the abdomen.

Dr. B. B. Browne, said that he had used a similar method for five or six years. He did not think that a barren women was as likely to conceive when stenosis had been relieved by this method as when it had been cured by cutting or forcible dilatation. He had never known a case in which conception had followed electric dilatation. In dysmenorrhea the application of electricity removes attendant cellulitis, and he has neven known it to excite inflammation.

Dr. J. J. Chisolm after referring to the rather extravagant use of electricity in medicine at the present day, drew attention to the relative effects of the positive and negative poles.

Dr. T. A. Ashby said that the object of our experimentation with electricity now, is to find where it is useful in medicine. In treating sterility from stenosis, he treats always the accompanying disease of the endometrium. The use of dilatation is, largely, to enable us to reach and treat the endometrium. Sterility on the woman's side is not always due to mechanical interference with the entrance of the seminal matter, even when there is stenosis of the cervix.

Dr. B. B. Browne said he would expect better results fnom dilatation by electricity than from other methods, but although he had treated the endometrium alike in all cases, those patients upon whom he had used electricity had not conceived.

Dr. J. J. Chisolm called attention to sterility of the male. Where this existed treatment of the uterus would of course not be followed by conception.

Dr. T. A. Ashby said it was his habit in these cases to examine the contents of the vagina and uterus for spermatozoa shortly after coitus. If spermatozoa were dead when removed from the uterus, he continued treatment till he could remove them alive, and then discontinued treatment for a time in hope of conception.

Dr. B. B. Browne, spoke of Neggarath's method of testing the capacity of the male. He believed that in many cases of sterility the male was at fault, as the result of gonorrhea or stricture.

Dr, S. T. Earle read a paper on a

### Case of Blind Fistula in ano Treated Unsuccessfully by Electrolysis.

The case was one that resulted from a case of ischio-rectal abscess that I opened freely November 19, 1888. After it had been opened kept it well drained, and from time to time kept up gentle stimulation of the abscess cavity by the passage of probes twice each week; then by injection of a strong solution of carbolic acid given at the same intervals, to promote healing. These efforts were continued until December 31, when the cavity had been apparently reduced to a narrow fistulous passage, but at that point it remained for several weeks without any appreciable improvement, when I decided to try the effect of electrolysis to promote healing of the fictitious track. I commenced with the use of the negative electrode in the sinus, using from 30 to 50 milliamperes for 10 minutes, at intervals of a week, and continued in this way for 3 weeks, after which I used the positive pole in the sinus with about the same strength of current for 2 weeks more. At the end of this time finding no appreciable improvement, I discontinued its use, and with

a sharp pointed bistury made a complete fistula of it, cutting through the intervening tissue, and left it to heal as an open wound by granulation.

Dr. J. R. Uhler said the chief objection he had to such methods as electrolysis in these cases was the length of time required to effect a cure, both doctor and patient becoming tired of the treatment. Many years ago he had seen electricity tried by Dr. Hammond, then of this city, in the use of Pulvermacher's chain in disease of the eye, the application of a silver-zinc couplet to chronic ulcers of the leg, etc. The cases now related suggest some thoughts. Did any one ever know a woman to conceive with a dilated uterine cavity? In his opinion a small uterine cavity is necessary for conception. In the use of deep electrolytic applications great caution should be exercised.

Dr. B. B. Browne said that when the cervical canal had been dilated by electrolysis the sound would at the next sitting pass more freely into the uterine cavity than when much more extensive dilatation had been practiced according to the old methods. He thought that perhaps the patulous condition of the uterine cavity after electrolysis had to do with the continued barrenness of the patient, the spermatozoa not being retained. In extensive laceration of the cervix women may conceive, but even then the cavity of the uterus above the internal os is not patulous.

Dr. T. A. Ashby said that the canal of the multiparous uterus would ordinarily admit a good-sized sound. He used the electricity chiefly to overcome abnormal spasm of the muscles about the uterine canal.

Dr. S. T. Earle said the case reported this evening was the first in which electricity had failed him. Heretofore he had had success in its use. A case which he reported some time ago, of extreme rectal stenosis from syphilis which he relieved by electrolysis, is still occasionally treated by him, and he is still very much pleased with electricity as applied to it. He thinks that many of the failures reported with this method are due to imperfect application of the current or to attending circumstances. This remark is with special reference to urethral strictures. In the case reported he had simply an abscess cavity, the walls of which he stimulated to action by electricity, hoping thus to effect a cure. In passing strictures we secure by electricity simply a relaxation of abnormal spasm.

Dr. T. A. Ashby said that he knew that the negative pole was the proper one to use, but having passed the sound in his case attached to the positive pole and obtained good results, he had continued to use the same pole throughout the treatment.

Dr. J. J. Chisolm said that in destroying hair-bulbs by electrolysis, the needle, in certain cases, will not go in without force before the current is turned on, and the part will bleed, but after the current is turned on, the needle will glide in of itself without bleeding, even when it does not enter the natural orifices in the skin.

## SELECTIONS.

### THE ETIOLOGY OF DIPHTHERIA.

BY SAMUEL N. NELSON, A.M., M.D.

Concerning the origin of diphtheria much discussion has arisen. Although its infective character has been doubted by some, it is now quite universally accepted; and I shall confine my remarks to a brief review and discussion of the etiology of the disease from the standpoint of the biologist.

I shall adhere to the classification of micro-organisms that is now universally adopted, viz., using the term "bacteria" in a generic sense including both the

Micrococci, the ball forms, and the

Bacilli, the rod forms.

That bacteria were early found in diphtheritic membrane, even before the recent improvement and perfection of the microscope permitted the researches and investigations resulting in the discovery of many pathogenic micro-organisms, is not to be

wondered at, when we realize that the healthy human mouth is constantly infested with bacteria of various kinds; not less than thirty different varieties having been isolated and cultivated by my friend Prof. W. D. Miller, whose labors have won for him the distinction of being the only American who has been honored with a professorship in the University of Berlin. We must remember, however, that it is one thing to prove the existence of micro-organisms in a diphtheritic false membrane, and another thing to prove that these germs are the cause of the disease. The difficulties are very great, and in the case of diphtheria as perhaps in no other disease, do we realize the importance of the isolation of the bacteria and their cultivation in a pure state, together with the reproduction of the disease by inoculation of the cultivated germs, before an attempt can be made to judge whether they are present as the cause of the disease, or are there, as most of them undoubtedly are, only as a result of the diseased state affording favorable conditions and soil for their growth and development.

The first reference to the idea that diphtheria is of parasitic origin, that I have found, is an article by Prof. Lacocq, and the idea was afterwards revived by Jodin.

Oertel says concerning bacteria in diphtheria: "They were discovered as far back as 1868 by Buhl, Hueter, and myself [I called them at that time micrococcus] in false membranes, the blood, and the tissues; in like manner they were demonstrated by von Recklinghausen, Nassiloff, Waldeyer, Klebs, Eberth, Heiberg and others, in the most different organs and tissues. In secondary infection of wounds, tracheotomy incisions, and ulcers, the grayish skin-like false membranes, as well as the tissues themselves, are crowded with these organisms."

In a "Treatise on Diphtheria," 1880, Dr. A. Jacobi reminds us that "Buhl was the first to discover schizomycete in diphtheritic membrane, but expressed no opinion as to the part they played in the process." Hueter found them in the gray diphtheritic covering of wounds, in the surrounding apparently healthy tissues, and in the blood. Hueter and Tomasi found them in the diphtheritic membranes of the pharynx and larynx, inoculated them on the mucous membranes of animals, and described them as small, round or oval, dark-colored, active little bodies. The latter observers look upon these organisms as a part of the infectious element. Oertel found them in diphtheritic membrane and in inflamed mucous membranes, in the lymphatic vessels, lymphatic glands, kidneys and other organs; he considers them at the bottom of the diphtheritic process and constituting the contagious element. Nassiloff, too, after inoculation in the cornea, noticed an enormous multiplication of the microscopic organisms, and their appearance with pus-cells in the lacteals, and in the lymphatics of the palate, and even in the bones and cartilages. He asserts that the development of organisms is the primary step in the diphtheritic process. Eberth made successful inoculations in living tissues: the micro-organisms, introduced into the cornea, proliferated actively and caused an inflammation of irritative character in the surrounding tissue. He asserts that diphtheria cannot occur without bacteria. Klebs inoculated the micrococci in pigeons and dogs and demonstrated the presence thereof in the blood of the animals after death. Orth found them in the pleuro, lungs, kidneys and urinary bladder."

Giacchi believes that a parasite is as necessary in the pathogenesis of diphtheria as the Oidium vitis is in the production of the disease of the grape.

Letzerich also differs from other German observers in regarding a true fungus, Zygodesmus fuscus, as the specific contagion of diphtheria.

The Micrococcus diphtheria, Oertal, is thus described: "It has an oval form, with a length of 1 to 1.5$\mu$ and a breadth of 0.3$\mu$; larger individuals, found nearer the surface, being 4.2$\mu$ long, and 1.1$\mu$ broad. Where the individuals are more scattered, they occur mostly in pairs, rarely a number of connected into a torula-like chain. When present in masses, the cells lie so close together that it

is difficult to determine whether they are connected or not. They are then imbedded in a gelatinous envelope, and thus combined in masses into a colony.

Talamon does not recognize the Zygodesmus fuscus of Letzerich nor the Mycrosporon of Klebs as the cause of diphtheria, which he believes to be a mycelium with characteristic growths from 2 to 4 or 5$\mu$ size, and having two kinds of spores:—

*a.* Round or oval spores, which are the spores of germination, which occurs in zooglea, and

*b.* Rectangular spores, which represent the third term of development of the fungus. These he has cultivated and inoculated on the mucous membrane of the mouth and nose of six rabbits, two guinea pigs, four frogs, one cock, and four pigeons, with reproduction of the membrane and death of some of the animals.

Klebs mentions that at first he supposed there was only one form of micro-organism present in diphtheria. This he called the microsporon diphtheriticum,and he claimed that it produced both rods and cocci, as different forms in the development of the same organism. Afterwards, however, he says that he recognized another form of diphtheria, which was characterized by the presence of bacilli. The later form he found at Zurich. It corresponded with the first form only in the gross anatomical changes. The latter form is characterized by the tendency to an extremely rapid extension of the membrane into the trachea, even while the affection in the pharynx is still in active process. Death usually occurs from suffocation.

Morphologically, Klebs says that the bacilli are long and narrow and that they hardly attain the size of the bacillus tuberculosis. Two spores are always found in each rod. When the diphtheritic membrane is dried gradually over sulphuric acid at the ordinary temperature, the spores increase very rapidly, and then rods may be found which contain no spores, while others contain four spores. He is convinced, he says, that a true diphtheria exists only when rod-shaped organisms are present in the membrane. This allows of two possibilities: in the microspore form we have micrococci, together with somewhat long rods which do not contain spores, and in these cases a general infection is rapidly developed. In the bacillus form, on the contrary, which is first dangerous on account of its rapid extention on the mucous membranes, we find a great number of small rods which contain from two to four spores.

We learn from the address of Dr. E. G. Barnes that Loeffler, whose investigations were extensive and are published by the New Sydenham Society, found, in the cases he examined, two organisms present in large numbers; the one were chain-forming micrococci or streptococci; the other the bacilli described by Klebs as characteristic of diphtheria. The streptococci may be exonerated from being the active cause of diphtheria by the fact that they are present in various other diseases which are accompanied by lesions of the mucous membrane, for example, small-pox, typhoid and puerperal fever, and therefore may be regarded as accidental; that they are found only in a limited number of cases of human diphtheria, and that, when inoculated on lower animals, they never produced a disease even resembling it. Much stronger evidence was shown by Loeffler in favor of bacillus being the true cause, and he even produced a similar disease by inoculating them on lower animals; but, on the other hand, he found they were not present in a number of undoubted cases of diphtheria; that in the false membrane he produced by introducing them through a wound in the trachea in rabbits and fowls, he did not find them in the same typical arrangement as in man: that they produced no effort in several animals otherwise susceptible to their action when applied to the uninjured mucous membrane of the fauces, respiratory passages, eyes and vagina; that paralytic symptoms did not occur in the inoculated animals; and, lastly, that in one case he found a gerfectly indistinguishable bacterium in the saliva of a healthy child.

Many allusions are now being made in the

secular press to the work recently done in Pasteur's laboratory, which has been described in the *Gazette Hebdomadaire de Med. et de Chir.*, January 18, 1889. MM. Roux and Yersin constantly found the bacillus of Klebs and Loeffler, which they describe to be a little thicker than the bacillus tuberculosis and of the same length. This description, you will observe, differs a little from the original descriptions of Klebs quoted above. They have cultivated the bacillus; and their inoculation experiments have produced paralysis, without which they do not consider the proof of real diphtheria conclusive.

My own experiments in the cultivation and inoculation of the bacteria of diphtheria were made several years ago, and are reported in a paper read before the meeting of the Eighth International Medical Congress at Copenhagen in 1884.

In November, 1883, I assisted Dr. H. O. Marcy in performing the operation of tracheotomy upon a child three years old, who was suffering from a severe attack of diphtheria. He was in extremis at the time of the operation, the breathing being very short and difficult. Membrane covered both tonsils. The operation was successfully performed and a tube inserted, when the breathing became perfectly free. Previous to the introduction of the tube, a complete membranous cast of the trachea was removed through the opening. The subsequent history was unfavorable; for the child died of blood poisoning about thirty-six hours later.

Soon after the operation I inoculated one of my culture-bulbs with a small piece of the membrane removed from the trachea. These bulbs are made after those of Sternberg of the United States army, which I then preferred to the method of culture on solid culture-media; I had not become thoroughly familiar with the latter method until some months later in Berlin, when I was soon convinced that it affords many advantages that cannot be obtained from cultures in bulbs. These bulbs are made from ordinary glass-tubing about three-tenths of an inch in diameter. In one end, a bulb is blown and the other extremity is drawn to a fine capillary point. These I made myself in quite large quantities at a time. They were filled two-thirds full with a sterilized beef-bouillon, then hermetically sealed, and in this condition they will keep indefinitely if successfully made.

For cultures I found it best to use bulbs which had stood the test of a temperature of 70° to 100° F. for several weeks; for if they remain clear and pellucid at the end of this time, any subsequent changes that might occur are due to the substances introduced.

Four days after the introduction of the diphtheritic membrane as seed, the liquid in the culture-bulb kept at a temperature of 70° became cloudy or turbid; and when examined with the microscope at 1000 diameters, there were found immense quantities of a micrococcus, identical with those seen in the fresh membrane. This micrococcus has about the diameter of the micrococcus of pus, and is very slightly elongated. They were grouped in clusters of a few members each, and belong to the group of staphylococci.

A second culture-bulb was inoculated with a fraction of a drop of the liquid in the first, and three days later the same cloudy appearance was noticed and examination showed identical micrococci. In this way the cultures were carried through ten generations, in each case several bulbs being inoculated at a time, and each one breeding true in three days. In all, about fifty bulbs were used.

My subsequent experiments of inoculation were carried on with the advice and assistance of Dr. Wm. F. Whitney. Four guinea-pigs were inoculated in the cornea with the contents of one of the bulbs containing the culture of the sixth generation. One of these animals died thirty-six hours later of blood poisoning. The others became very ill, losing their appetite and the eyelids becoming much swollen and œdematous, with profuse discharge which contained the micrococci. The cornea became cloudy and was covered with a membrane. Two of these animals were killed on the third day after inoculation, this being the period at which the micrococci

developed; one was allowed to get well, but the eye was completely destroyed.

In the aqueous humor of the eyes dissected there were found micrococci, which were also found in sections of the cornea of the eyes, which had been placed in alcohol immediately after removal, and when hardened were cut with a microtome.

These experiments are limited in number and, I know, need further confirmation; but as far as they go they seem to show that there is a micrococcus of diphtheria which can be cultivated, and which when inoculated in the guinea-pig produces diphtheria.

If, however, further proof is needed I can give it; for on the third day after killing the animals, and after no other exposure, I myself became ill, developing a severe attack of diphtheria, which appeared first in one tonsil and the uvula, and then on the other tonsil; being accompanied with severe constitutional symptoms and followed by a slow and tedious recovery. This has proved, to my satisfaction at least, the correctness of these views.

Thus we see in brief review the chain of the sequence of events:—

A typical case of diphtheria in a child;

The presence of micrococci in the membrane;

The cultivation of the micrococci in pure cultures to the tenth generation;

The inoculation of guinea pigs with micrococci of the sixth cultivated generation,and reproduction of the disease;

The unwitting inoculation of the experimenter, thus bringing the disease back to its original form in a human being—*Boston Med. and Surg. Jour.*

## PROPER NAMES IN MEDICINE.

The following list is translated *Le France Medicale* by Philadelphia *Med. Times*:

Addison's keloid—Morphea.
" disease—Bronzed skin.
Alibert's " —Mycosis fungoid.
Aran-Duchenne's disease—Progressive muscular atrophy.
Astley Cooper's hernia—Crural hernia with multilobar sac.
Argyll-Robertson's sign—Absence of pupil reflex.
Basedow's disease—Exophthalmic goitre.
Bain's " —Buccal psoriasis.
Beclard's hernia—Hernia opposite the saphenous orifice.
Bell's palsy—Paralysis of the 7th pair.
" spasm—Convulsive facial tic.
Bergeron's disease—Rhythmic localized chorea.
Boudin's law—Antagonism of paludism and tuberculosis.
Boyer's cyst—Sub-hyoid cyst.
Bright's disease—Albuminous nephritis.
Brown-Sequard's syndrome—Hemiparaplegia, with hemianesthesia of the other side.
Cazenave's lupus—Lupus erythematosus.
Charcot's disease—Ataxic arthropathy.
" " —Lateral amyotropic sclerosis.
Cheyne-Stokes' respiration—Uremic respiration.
Cloquet's hernia—Pectineal hernia.
Colles' fracture—Fracture of the lower end of the radius.
Colles' law—Non-infection of the mother by Syphilitic child.
Corrigan's disease—Aortic insufficiency.
Corvisart's facies—Asystolic facies.
Cruveilhier's disease—Simple gastric ulcer.
Donder's glaucoma—Simple atrophic glaucoma.
Dressler's disease—Paroxysmal hemoglobinuria.
Dubini's disease—Electric chorea.
Duchenne's disease—Locomotor ataxy.
" palsy—Pseudohypertrophic palsy.
Duhring's disease—Dermatitis herpetiformis.
Dupuytren's disease—Retraction of the palmar aponeurosis.
Dupuytren's hydrocele—Encysted hydrocele.
E. Wilson's disease—Generalized exfoliative dermatitis.
Eichstedt's disease—Pityriasis versicolor.
Erb's palsy—Paralysis of the roots of the brachial plexus.
Erb-Charcot's disease—Spasmodic tabes dorsalis.

Fouchard's disease—Alveolo-dental periostitis.
Friedrich's disease—Hereditary locomotor ataxy.
Gerlier's disease—Vertigo with paralysis.
Gilbert's pityriasis—Rosy pityriasis.
Gibbon's hydrocele—Hydrocele with voluminous hernia.
Gilles de la Fourette's disease—Motor incoordination, with echolalia and coprolalia.
Goyrand's hernia—Inguino-interstitial hernia.
Graves' disease—Exopthalmic goiter.
Graefe's sign–Disassociation of the movements of the globe of the eye and of the upper eyelid.
Guyon's sign—Renal ballottement.
Harley's disease—Paroxysmal hemoglobinuria.
Heberden's rheumatism—Rheumatism of the smaller joints, with nodosities.
Hebra's disease—Polymorphous erythema.
" pityriasis—Chronic pityriasis rubra.
" prurigo—True idiopathic prurigo.
Henoch's purpura—Purpura with intestinal symptoms.
Heselbach's hernia—Crural hernia with multi-lobar sac.
Hippocratic facies—Agonized facies.
Hodgkin's disease—Adenitis.
Hodgson's " —Aortic atheroma.
Huguier's " —Uterine fibro-myoma.
Hutchinson's teeth—Syphilitic teeth.
" triad—Syphilitic teeth, interstitial keratitis, and otitis.
Jacob's ulcer—Chancroid.
Jacksonian epilepsy—Partial epilepsy.
Kaposi's disease—Xeroderma pigmentosum.
Kopp's asthma—Thymic asthma; spasm of the glottis.
Kronlein's hernia—Inguinal, properitoneal.
Laennec's cirrhosis—Atrophic cirrhosis.
Landry's disease—Acute ascending paralysis.
Langier's hernia—Hernia across Gimbernat's ligament.
Leber's disease—Hereditary optic atrophy.
Levert's law—Marginal insertion of the cord with placenta previa.
Littre's hernia—Diverticular hernia.
Ludwig's angina—Subhyoid infectious phlegmon.
Malassez's disease—Cystic testicle.
Meniere's " —Labyrinthic vertigo.
Millar's asthma—Stridulous laryngitis.
Morand's foot—Foot with eight toes.
Morvan's disease—Analgesic paresis of the extremities.
Parrot's disease—Syhilitic pseudo-paralysis.
" sign—Dilatation of the pupil on pinching the skin.
Paget's disease—Pre-cancerous eczema of the breast.
Paget's disease—Hypertrophic, deforming osteitis.
Parkinson's disease—Paralysis agitans.
Parry's " —Exophthalmic goiter.
Pavy's " Intermittent albuminuria.
Petit's hernia—Lumbar hernia.
Pott's aneurysm—Anastomotic aneurysm.
" fracture—Fracture of the fibula by divulsion.
" disease—Vertebral osteitis.
Raynaud's disease—Symmetrical gangrene of the extremities.
Reclus' disease—Cystic disease of the breast.
Richter's hernia—Parietal enterocele.
Rivolta's disease—Actinomycosis.
Romberg's sign—Unsteadiness of ataxics in darkness.
" trophoneurosis—Facial hemiatrophy.
Rosenbach's sign—Abolition of abdominal reflex.
Salaam tic de—Convulsive salutation.
Soemisch's ulcer—Infectious corneal ulcer.
Storck's blenorrhea—Blenorrhea of the upper air passages.
Stokes' law—Paralysis of muscles subjacent to inflamed serous or mucous membranes.
Sydenham's chorea—Common chorea.
Thomsen's disease—Muscular spasm at the beginning of voluntary movements.
Tornwald's disease—Inflammation of Luschka's pharyngeal gland.
Velpeau's hernia—Crural hernia in front of the vessels.
Volkmann's deformity—Congenital tibio-tarsal luxation.

Wardrop's disease—Malignant onyx.
Weil's disease—Abortive typhus with jaundice.
Well's facies—Ovarian facies.
Werlhoff's disease—Purpura hemorrhagica.
Westphal's sign—Abolition of patellar reflex.
Willan's lupus—Lupus tubercular in form.
Winckel's disease—Pernicious cyanosis of new-born infants.

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ACUPUNCTURE IN ENLARGEMENT OF THE SPLEEN.—At the Congress of the Italian Society of Medicine, held at Rome some months ago, Dr. Feletti related two cases of chronic malarial enlargement of the spleen which he treated successfully by acupuncture. He used steel needles, such as are used for the electro-puncture of aneurysms. Having first carefully disinfected the needle, he plunged it into the substance of the spleen, leaving it there just long enough to be sure that it was in the right place. The procedure is almost painless. In one of his cases Dr. Feletti had an opportunity of examining the organs after death, which occurred (from tuberculosis) a fortnight after the last puncture. With the naked eye eye, small brown spots could be seen in the spleen at points corresponding to the punctures. Microscopic sections showed a roughly triangular area with its base toward the capsule, which at that point was broken; this area was occupied by young connective tissue, together with the remains of a blood-clot. In the discussion which took place on Dr. Feletti's paper, Dr. Fazio spoke highly of the results of parenchymatous injections of quinine in similar cases, which combined the mechanical effects of puncture with the medicinal action of the drug.—*Brit. Med. Jour.*

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INEBRIETY.—In a paper recently read on this subject, before the Medical Jurisprudence Society, Philadelphia, Dr. Parrish summarises as follows:

1. Alcoholic inebriety is a disease which chiefly affects the nervous system, and may be transmitted from one generation to another, or it may be created by long continued indulgence, and render its victims as much slaves to its power as if inherited.

2. In either case the symptoms are the same, and the person is debauched at intervals of varying duration, being controlled by an impulse which is beyond the reach of human will.

3. When committing a criminal act, it is usually done in a state of unconsciousness and irresponsibility.

4. If convicted of crime, he should be isolated from the community in a hospital or asylum provided by the State.

5. The dangerous element of the disease is in the fact that when alcohol enters into the human body in excess,it assails the inhibitory power, controls the will, and enslaves its victim beyond his power of choice.—*Philadelphia Polyclinic.*

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A MEMBER OF THE AMERICAN PHYSIOLOGICAL SOCIETY has offered $200 for the best research or researches bearing on one or more of the subjects treated below, viz; "The rate of transmission of nerve impulses, afferent and efferent, and the duration of reflex and reaction time in the higher animals, especially man; also the conditions, normal and pathological, which alter such rates and times." The competition is limited to residents of North America, and the prize will be awarded for original work done after Jan. 1, 1889. Communications should be addressed to Professor H. Newell Martin, Johns Hopkins University, Baltimore, Md.—*Med. Rec.*

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THE TREATMENT OF BURNS BY COCAINE AND LANOLIN.—Dr. Wende recommends, in the *Journal de Medicine de Paris*, the use of an ointment of hydrochlorate of cocaine and lanolin as a dressing for burns. By this mixture not only is perfect occlusion obtained, but pain is almost immediately arrested. It is necessary, however, that the cocaine be pure, and the ointment be recently made.—*Ther. Gaz.*

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## ORIGINAL ARTICLES.

### SPECIES IN BACTERIOLOGY.

BY WILLIAM TRELEASE, M D

Read before the Alumni Association of the St. Louis Medical College, February 13, 1889.

Naegeli wrote, in 1877, "Die naturhistorische Species ist bei den niederen Pilzen nicht in der Weise ausgebildet, dass ihr besondere Zersetzungs-functionen entspraechen. Wenn es bei den Spaltpilzen verschiedene Species giebt, so bewirkt jede einzelne derselben verschiedene zersetzungen, sowie anderseits die naemliche zersetzung durch verschiedene Species veranlasst wird. Jede Species der Spaltpilze tritt in mehreren, morphologisch und physiologisch verschiedenen Formen auf, welche durch die aeusseren Verhaeltnisse rasch oder langsam in einander umgewandelt werden, wobei die fruehere Hefenwirksamkeit verloren geht und eine andere erworben wird." Further: "Ich habe seit 10 Jahren wohl tausende von verschiedenen Spalthefeformen untersucht, und ich koennte, wenn ich Sarcine ausschliesselnicht behaupten, dass auch nur zur Trennung in zwei spezifisch verschiedene Formen Noethigung vorhanden sei." (Die Niederen Pilze, 1877, p. xiv; and p. 20. The learned German botanist had undoubtedly been prepared for this conclusion by a study of the very complicated European forms of hieracium. Sitzb. Muench. Akad. 1866, i, 330, 472. See Gray in *Amer. Jour. of Sci.*, 1875, ix, 352.)

Five years before, Cohn, in a comprehensive effort to classify bacteria on the morphological basis employed elsewhere in the animal and vegetable kingdoms, while recognizing, as others had done before him, that species exist, comparable to those of more highly developed groups, called attention to the probability that some forms bearing specific namas are only "form-species," like those too well known to the student of fungi which cause diseases of flowering plants. (Beitraege zur Biologie der Pflanzen, i. 2, p. 130).

Zopf, in 1883, also recognizes species comparable with those admitted elsewhere,though he acts on the line of Cohn's suggestion to the extent of reducing many species of micrococcus to forms of rod-bacteria.

I have willingly availed myself of the invitation of your Executive Committee, to state as nearly to the point as I can some thoughts on this subject. What I shall have to say depends upon the way of thinking of a botanist, and has no value except as it indicates this, since I cannot pretend on the one hand to speak of the pathological points involved, with the authority of a physician, or on the other hand, to give my remarks on morphology and culture-characters the personal force of a bacteriologist. Yet I do not venture to employ your time in the consideration of a subject that is interesting only to persons engaged in descriptive natural history. The question I have attempted to discuss not only requires careful consideration by the botanists who are to monograph our bacteria, but a reasonably clear conception of it must be had before the physician who desires to keep abreast of the times in the modern study of germ diseases can really weigh what comes before him in his reading or his practice.

I start with the postulate that even among these beings there is no demonstrable or probable spontaneous generation; that every existing individual, so far as reliable evidence goes, originated from other pre-existent individuals. The methods of the last decade have pretty effectually shown, in the results

they have led to, that bacteria follow in this respect the laws long since reached for higher animals and plants. In the minds of many students of nature, there exists a belief that at some time dead matter became "spontaneously" vitalized, and that from the extremely simple being or beings resulting from this spontaneous generation, others, many of them successively more complicated, developed under the influence of natural selection, etc. The latter changes are believed to be going on to-day, about and within us, and for all we know there is as much likelihood of spontaneous generation of living from dead matter to-day as there ever was. Still, as I have said, no person whose opinion carries any authority now believes that the origin of even so simple beings as bacteria from anything but parent forms is to be looked for. Tested by the same methods, the opinion of Naegeli is shown to rest in part upon error, arising from the ease with which cultures in fluids may be vitiated by the introduction of a single microscopic germ. Men who believe thoroughly in evolution, past and present, unite in thinking that changes from one species to another do not usually occur by jumps; that, for instance, the hay bacillus is not, either in a few days or in a century, convertible by natural or artificial means into the germ of splenic fever or of tubercle.

A second postulate, derivable from what has been said, is, therefore, that here as elsewhere, species are aggregates of individuals, really differing from each other by more or less evident characters, which for such periods of time as the descriptive or experimental naturalist has to consider are reproduced in all essentials in their offspring.

But even a short experience in exact bacteriological work with modern methods, shows that some of the best known species are variable in more than one respect when grown under varied conditions. It was some such result that Cohn anticipated. It was this which Zopf found when showing that rod-bacteria may occur so much shortened as to pass for coccus forms, though he is generally thought by bacteriologists to have over-estimated the inferences deducible from what his own studies really proved.

Morphological characters are, therefore, subject to such proved or probable variation that their full range of variability has to be taken into account in basing species upon them. This, however, is no more than must be done elsewhere in the description of species. But the small size and slightly developed differentiation in these plants make it very hard to characterize species morphologically alone. In fact, very few bacteriologists of standing profess ability to do so except in rare cases. What are commonly regarded as morphological characters in bacteriology, are those derivable from the size and form of the unicellular creatures, and whatever spore-features they may present. But when one is characterizing corals and other of the lower animals, as well as many plants of much higher organization than bacteria, the mode of aggregation of what are usually regarded as individuals, is admissible among characters of this class. It is, therefore, quite reasonable to count as such the manner in which bacterian cells are grouped in cultures of different sorts. While the phenogamic botanist rarely takes into account, as an applicable specific character, the tendency which some trees show to grow in dense forests of large extent, while others occur isolated, and still others form isolated clumps, these features are sometimes well-marked, and might be profitably used as accessory to descriptions if they were not usually rendered superfluous by the presence of others, pertaining directly to structure, and evident in the individual plant or even in the fragments of it which are preserved in the herbarium. But some bad weeds, etc., are strongly characterized by their growth in limited tufts, and this feature is often referred to in descriptions, though the root-stocks, suckers, etc., by which local propagation is effected, are described at the same time. Even in the absence of a demonstrable reason for the results reached among bacteria, there are, therefore, as it seems to me, analogies

justifying the use of culture-characters as of nearly morphological value, in limiting their species.

In point of fact, under like conditions of growth, the loose radial arrangement of the filaments at the margin of a colony of the hay bacillus, in gelatine, and their compact tangential arrangement in that of the bacillus of splenic fever, possess great value in distinguishing between the two: and the same sort of characters are equally applicable elsewhere. The firm, nodular colonies of a serum-culture of the tubercle bacillus, the mealy, wrinkled, tough colonies of the potato bacillus,the isolated, rounded dots of the streptococcus forms, and the terraced, advancing margin of a culture of Loeffler's diphtheria bacillus, have also their precedent, while they unquestionably possess value, as applicable characters.

While the botanist, possessed of other, more easily investigated and more readily preserved characters, does not commonly refer to it, he recognizes in many cases the different aggressive power of higher plants which enables some to obtain a foothold in, and ultimately to disintegrate, lava or the naked rock, while others grow only where the way has been prepared for them. Only a few yards apart, the two classes of plants are to be found and studied wherever a cliff occurs; and the adaptation of different plants to their mode of growth,—whatever its causes may be,—is often so marked that the cliff-plant holds to its cleft in the ledge, though more abundant and apparently more easily obtainable food material lies close about it. Something of the same sort is equally demonstrable for, and equally applicable to the characterization of, some bacteria; though in view of the divided opinion of physiologists and bacteriologists on the phagocytic theory of Metschnikoff, it can hardly be brought forward as a parallel case. The distribution of the bacillus of splenic-fever, and of some other septicemic forms along the circulatory channels, even the finest capillaries of a glomerulus, etc., while the cells are for the most part free from them (except in the very abnormal experimental anthrax of the frog), contrasts strongly in this respect with the aggression apparently shown by the gonorrheal germ and bacillus murisepticus, which are chiefiy found within the leucocytes.

Though in these cases there is a deviation from the use of strictly morphological characters, those which have been referred to are apparently no less trustworthy, while they are frequently more easily observable, and, for this reason, more applicable.

Valuable structural characters, however, are not necessarily those which refer to size and form only, of the individual or its cells. There are sometimes, in bacteria, demonstrable differences in the character of the cell-wall. Occasionally these are manifested in a toughness of the zoogloea, as in the potato Bacillus or Eberth's typhoid bacillus, as concontrasted with the slight cohesion between the cells of the majority of species. Such cases, in fact, bridge the gap between individual-cell characters, and those afforded by culture-colonies. Sometimes, under favorable conditions, the wall possesses a demonstrable thickness,—even becoming a capsule, as in animal cultures of micrococcus tetragenus or Friedlaender's Pneumobacillus. Subject to the determination of its variability, this character has norphological value. Sometimes, although no considerable thickness may be demonstrable, the wall is to be regarded as denser or more impermeable than usual, because of the resistance the cells show to injury from heat, dryness, etc., or to the passage of staining-fluids that ordinarily possess marked power of coloring bacteria protoplasm; as in the case of bacillus spores, or the ordinary cells of the tubercle-bacillus, where a differential staining is obtainable by forcing the stain through the wall, either by long immersion in it or by the aid of heat, after which the color is removed from all other cells by the use of alcohol or other decolorizing media, which in their turn pass the walls so slowly that the process may be stopped at the desired point and a counterstain applied, if wished, without danger of its penetrating and replacing the color already held by the spores, etc. The Gram method

of differentially staining bacteria of many sorts *in situ*, now so universally employed, must be regarded as indicating some such property in the walls of species which hold their color after the iodine treatment, as well as its absence in those that do not.

The presence or absence of flagella on the cells of different species, if it were determinable with any certainty or constancy, would constitute a strictly morphological character; but very few of even the expert professional bacteriologists claim to have seen these excessively minute and active filaments on more than a few of the larger species, and with our present means of investigation they are scarcely to be made out with sufficient certainty to serve a useful purpose as characters. If,as analogy would lead us to suppose,they are protoplasmic filaments, serving as organs of locomotion, hence present in motile forms and absent from those invariably destitute of the power of locomotion, the fact that a given species has this power while another has not becomes of almost morphological value, from the inference it enables one to draw. But the inferred presence or absence of flagella, *i. e.*, the ability or inability of the cells to move spontaneously, may not always be constant in the same species, for this power sometimes varies with the nature of the culture examined, the access or exclusion of oxygen, light, etc. In drawing any inference from it, one should also bear in mind that so able and experienced a botanist as DeBary agreed with VanTieghem in regarding the flagella of bacteria as only derivatives of the cell-wall, and consequently very doubtfully organs of locomotion. (DeBary: Vorlesungen ueber Bacterien, 1885, p. 6.)

That structural differences exist in the protoplasm of different species, is pretty clearly evinced by the avidity with which some forms take up even a dilute or feeble coloring matter throughout their cells, while others show a polar or nodal staining under the same circumstances. But the question here is rarely that of a difference between related species that can be gathered with any exactness from descriptions; it is rather something demonstrable when the investigator can compare fresh material of two things, one of which is known.

With the introduction of characters obtained by the use of staining agents, comes the suspicion that one may be relying not on structural, but on physiological differences between the bacteria studied. In the cases already referred to, there would seem to be little reason for discrediting the value of the results reached. But the passage is an easy one from these to micro-chemical tests for substances that are not constituent parts of the cells. Iodine gives the usual starch reaction for an amorphous substance contained in the cells of leptothrix buccalis, clostridium butyricum, bacterium pastorianum, etc. But what might here be considered a good character, is a physiological peculiarity, not always constant; and reliance upon micro-chemical means of discriminating between species of bacteria is not likely to lead to much better results than have been reached by similar methods in the study of lichens.

This opens up the question of physiological characters, and the value of species based upon them. Naegeli, studying this phase of bacteriology for many years, reached the conclusion that has been quoted. In the minds of most descriptive naturalists, such characters are not comparable with those derived from tangible structural or morphological differences. Were it not that the employment of solid culture-media has rendered it possible to isolate with certainty many of the forms of a given mixture of species, and to test the purity of a culture unimpeachably, at any time, it is probable that Naegeli would to-day have a large following; but these methods have failed to confirm his belief in the morphological convertibility of species of bacteria or in their variability beyond rather narrow limits, while they have made possible the employment of characters not previously available. If other means of discrimination were at hand, I should object as strongly as any to laying stress upon those of a physiological nature.

As it is, rather than give up the study of bacteria as one from which nothing can be expected that is at all definite, —as some few botanists seem disposed to do, —I should say that careful work by competent persons, with the best methods, cannot fail to result in as permanently reliable results as have been reached elsewhere in classification. Meantime, these characters may be accepted for what they are worth, as of secondary value, but often suggestive of new lines of investigation, from which evidence of another nature may be hoped for.

Physiological peculiarities of plants presumably depend upon differences in the structure or composition of their protoplasm, which in the present state of knowledge—and for the bacteria of microscopes—must be regarded as intangible, though my expert friend, Dr. Hansen, the leading authority on the related yeast-plants, hopes for the possibility of soon demonstrating a structural basis for some physiological characters of yeasts. Were they constant and sustained by parallel cases, they might almost be held as indicative of such differences; but these would even then have only theoretical support such as is given to the micellar theory of the molecular arrangement of organized matter, etc. But the prejudice against physiological characters in the limitation of species rests upon a supposed greater mutability inherent in many of them than in most of those of a morphological nature; independently of the greater difficulty of determining them in the higher plants. It is known, for instance, that the quality of given medicinal plants, of tobacco, etc., due to their products, varies in different parts of the world, or even when they are grown under very obscure local differences of conditions, as in the case of the grape yielding some of the choicest brands of claret.

Any physiological characters, therefore, to be useful in the delimitation of species of bacteria, must be reasonably constant as well as pronounced. The fact that a species is, with our present means of cultivating bacteria, strictly parasitic, like the spirochaete of relapsing fever; that it grows with great difficulty in artificial cultures, like the micrococcus of gonorrhea; that it dies after a short time, when cultivated, unless reinoculated, like the swine-plague bacillus of the Germans and of our Department of Agriculture—all these peculiarities have at least suggestive value. The optical and chemical properties of the pigments produced in the growth of certain species; the fact that in most cases these require the access of oxygen for their formation, while they more rarely (spirillum rubrum) develop freely only in punctures made in the culture-medium, afford characters not to be ignored, even if they do not suffice by themselves to limit species. The color producible in peptonized broth-cultures of Koch's comma bacillus, when treated by a mineral acid, is another phenomenon of the same sort, capable of important practical application. That a species can be cultivated only when oxygen is prevented from reaching it may help one materially in distinguishing it from morphologically related forms. The restriction of some species to more or less exclusive parasitism on a given host or group of related hosts, while it nowhere carries much weight as a specific character, may be just as convenient an aid in looking up species as it is in the rust or smut fungi, and as valuable in other ways as it is there.

When the idea of gelatinizing nutrient-solutions received practical application, it was found that some species cause nutrient animal gelatine to liquify more or less completely, while others do not affect it in this way. This is supposed to indicate a peptonizing power in some species which others have not. So far as I know, the ability of a given species to produce this effect is as fixed as related physiological properties. There are indications that it may vary; nevertheless, it is one of the most generally useful of the characters of its class in modern studies of bacteria. A less reliable physiological character is the phosphorescence of several species; for this is more dependent upon the condition of the medium on which they are grown, and

may be lost and, in some cases, regained while the species maintains other characters unchanged.

Closely allied to their behavior in culture-media, is the relation of bacteria to living beings—their pathogenic power. The causation of germ-diseases is many times an expression of a disturbed balance between two factors, a greater virulence than usual on the part of specific bacteria, or a sligher resisting power than usual in the organism attacked. Both are, for the most part, practically unknown quantities.

In diphtheria and scarlet fever, other than the causing germs very frequently take possession of the weakened tissues, and cause after-effects sometimes more dreaded than those directly incident to the original disease. A typhoid patient is more subject to the attacks of other bacteria than a healthy man. Diabetic patients are notoriously liable to suffer from boils and carbuncles. The possibility of distinguishing some contagious diseases as "children's diseases," rests upon the smaller power of the immature system to cope with its parasitic enemies than the adult possesses. Instances might be multiplied and a detailed analysis would add to the weight of every one of them.

On the other hand, epidemics differ greatly in virulence, and infection sometimes (but not invariably) gives rise to a form of the disease corresponding in severity with that prevalent in the neighborhood, or in the case from which infection is known to have occurred. So familiar is this that some well-informed physicians rather favor the exposure of children during a mild epidemic of scarlet-fever, because of the immunity from subsequent attacks that even a mild case commonly affords. Similarly, infection from a carbuncle is much more dreaded than from an ordinary boil, although cultures enable the investigator to isolate staphylococcus pyogenes, aureus, from both, as the agent of suppuration. Inoculation experiments on animals, with cultures of some of these pathogenic forms from different sources, show parallel results. Mice are only slightly susceptible to the attacks of streptococcus obtained from the pus of puerperal fever, etc., while they commonly die when infected with that from the diphtheritic membrane. Are the two distinct species though not otherwise separable?

Not to multiply examples, these and similar facts show that differences in pathological power are often too variable to allow one to use them with much certainty as specific characters. The argument they afford against the recognition of physiological species is, by analogy, also applicable to other sorts of physiological characters, since the pathogenic power of bacteria is known in some cases, and suspected in more, to depend upon the production by them of alkaloids or similar toxic principles, much as to the peptonizing or chromogenic ferments already alluded to are produced.

There is, however, this added argument against basing too much faith on pathogenic characters. Some cultures soon lose their power of causing diseases, though fresh cultures infected from them are virulent. Others permanently lose their power after cultivation for a short time in artificial media, however fresh the culture may be, or however careful one may have been to maintain favorable conditions for its growth. Indeed, it would seem that as a rule in proportion as a species gains in vigor of growth on artificial media, it loses its pathogenic power. The most striking example of this loss of the power of causing disease, is afforded by the artificial and intentional "attenuation" of several germs, that has been effected. The virus used by the French school of bacteriologists, in inoculations for the purpose of conferring immunity against chicken-cholera, rouget of swine, splenic-fever, etc., has been thus weakened. The bacteria of an attenuated virus have not only lost much (or all) of their original pathogenic power, but they transmit their altered physiological peculiarities to their offspring through an indeterminate series of generations. That this power, which is usually lost so easily, may be regained under the most favorable conditions of parasitism, is inferentially possible, if not

yet shown. It is, at any rate, known that virulence may be increased by suitable animal cultures. (*Cf.* Fluegge: Micro-Crganismen, 247, 534). To this extent, therefore, the belief of Naegeli in the physiological transformability of species receives confirmation. However it may be with other physiological characters, it is evident that the greater or less pathogenic power of bacteria is too variable to warrant its employment as an important adjunct to specific descriptions.

My notions in regard to the value of characters may, then, be briefly summarized thus:

1. Morphological characters, making due allowance for their full range of variability in each species, are here as elsewhere of prime importance; but as they rarely serve by themselves for discrimination between similar species, it is necessary to supplement them by others, which differ greatly in their value. Chief among these are characters derivable from the mode of growth in solid cultures. Characters based on the behavior of cells toward staining fluids, though not easily applicable, are held to be of morphological signification, so far as they can be used. The ability to move spontaneously under favorable circumstances, is, perhaps, of equal weight.

2. Physiological characters which concern pigment production, specific fermentation, and the liquefaction of gelatine, though subordinate to those of a morphological nature, are apparently reliable; and species based up on them in connection with the others, appear tenable in most cases.

3. Pathogenic characters, for the most part, are too unreliable to render species which depend at all upon them, above suspicion, though they may afford very valuable collateral evidence. The latter statement is especially true in case two contrasted forms produce very dissimilar diseases spontaneously or when experimental infections are resorted to. But the chaotic state of the streptococcus forms involved in erysipelas, puerperal fever, etc., is apparently evidence that where it is most needed, this help cannot be relied on.

I can scarcely close my remarks on this subject without referring briefly to some of the questions involved in classifying bacteria. Cohn (Beitrage zur Biologie der Pflanzen, i. 2, 146), recognized four tribes of bacteria, on purely morphological grounds, viz:—Sphaerobacteria, with essentially spherical cells; microbacteria, with very slightly elongated cells; desmobacteria, with decidedly elongated cells, at most undulate; spirobacteria, with elongated cells, coiled in a spiral. This arrangement has been substantially adopted in many places. Cohn, himself, however, soon afterward divided all schizophytes into two tribes: Gloegenæ, with cells free or aggregated in gelatinous colonies, and nematogenæ, with their cells arranged in filaments; each of these with subdivisions based on the character of the cell-complexes. This arrangement is also found in Sternberg-Magnin. (The Bacteria, p. 66).

Zopf (Die Spaltpilze, 1883, p. 48) recognizes four principal groups, nearly corresponding in value to the original tribes of Cohn, viz: Coccaceæ, with essentially spherical cells; bacteriaceæ, with a morphological range from nearly spherical to elongated, but filamentous forms not having their extremities characterized as basal and apical; leptothricaceæ, with the same morphological range as the last, but the filamentous forms showing base and apex, while spirals are sometimes produced; and cladothricaceæ, similar to the last, but the thread branching by what has been called false dichotomy. Owing to his belief that most micrococcus cells represent only phases in the development of higher forms, he admitted at first only the genus leuconostoc among the coccaceæ, referring others to a large group of incompletely known bacteria: but in a later edition, these forms are collected where they belong from what is known of their life-history. (See Crookshank: Practical Bacteriology, 111).

Schroeter makes three principal groups, which he calls orders: Coccobacteria, with subspherical cells; Eubacteria, with elongated straight or spiral cells; and Desmobacteria, with their elongated cells forming filaments that possess basal and apical extremities. Ex-

cept for the inclusion of forms at first relegated by Zopf to the *omnium gatherum* of incompletely known species, the first corresponds to the coccaceæ; the second to bacteriaceæ; and the third to the other two groups of this author. (Cohn's Kryptogamen-Flora von Schlesien, iii, 1886, p. 142.)

DeBary (Vorlesungen ueber Bacterien, 12) recognizes two principal groups, characterized by the, as yet imperfectly studied, mode of spore-formation: Arthrospore-bacteria, in which a cell becomes separated and serves as a spore; and endospore-bacteria, in which specialized spores are formed within vegetative cells. A synopsis of the forms corresponding to each of these main groups is found in Hueppe's "Methods of Bacteriological Investigation" (Biggs), p. 29.

Such a classification, upon what appears to be a deep-seated morphological character connected with propagation, might be satisfactory were it not that the character upon which it rests is as yet obscure and sometimes unusually difficult to make out. Moreover, isolated cells of any of the bacteria possess the power, while fresh, of multiplying largely and thus of giving rise to new colonies under favorable conditions. This is in fact the basis of the methods of the German school, for isolating desired forms by the use of gelatinized culture media. The power of such undifferentiated vegetative cells to resist unfavorable influences differs vastly when a number of species are compared. So far as I know, morphologically characterized arthrospores have been shown to exist only in the genus leuconostoc. What usually pass for such are comparable with the hormogonia of lyngbya, etc., among the related phycochromophyceæ, rather than with the true orthrospores of anabaena, etc.

Without questioning the importance of this character as a basis for the division of bacteria into higher groups, I do not see present reason for employing it further than for the separation of leuconostoc from other genera of Coccaceæ. Indeed, its employment in the broader sense suggested by DeBary, including a recognition as arthrosporic of all forms not proved to be endosporic, can scarcely do more than lead to unnecessary confusion of ideas, as it has actually done in bacterium. Zopf was apparently right in holding this genus to be inseparable from Bacillus by ordinary characters; and the failure to observe spores in a given species is small reason for removing it to an entirely different prime division of the group of bacteria, on the assumption that its cells are unspecialized arthrospores. For all practical purposes, the arrangement of principal groups in Zopf's newer synopsis, or in that of Schroeter, employing the spore-character, where it proves to be applicable, as a subsidiary character, appears to be not only the most useful, but the most reliable, in the present state of knowledge concerning bacteria.

Unfortunately, the decision of just what differences mark specific or generic limits, is too largely subjective, and dependent upon the individual judgment of writers upon this as well as other branches of descriptive natural history. "Species-grinders" and "genus-splitters" are everywhere met with caustic criticism by more conservative workers, who in their turn are sometimes accused of recklessly lumping together things that they do not know as well as they ought. While I have attempted to give my own views on the general relative value of characters useful in limiting species, I have by no means exhausted the subject so far as this one point is concerned; and the comparative merits of few or many genera in the several tribes of bacteria must be left entirely untouched for the present. The question is, however, one that must be conscientiously and thoroughly studied before a satisfactory monograph of our schizomycetes can be written—though it may be of less importance than that to which your attention has been asked this evening.

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WHERE THERE is a collection of foreign matter, as pus, in the antrum of Highmore, extract the first molar tooth (or more, if necessary), and drain the cavity in this way. —*Sajous.*

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SATURDAY, MARCH 23, 1889.

## SPONTANEOUS COMBUSTION OF THE HUMAN BODY.

Dr. G. Archie Stockwell, of Port Huron, Mich., has given in the *Thera. Gaz.*, of the 15th the records of a number of cases which go far to substantiate the belief held by some that the tissues of the body may undergo such chemical change as to ignite without the aid of external heat. Dr. Stockwell says that notwithstanding the fact that certain works on medical jurisprudence affirm that this is true, the question still admits of no little argument. He says M. Duvergie from personal study and observation unhesitatingly declares that such is not only possible but probable. In defense of his theory he cites two cases, one a young man and the other a young woman, both apparently perfectly healthy, had flame communicated to the ends of their fingers, setting fire to their clothes; and though immersion in water extinguished the flame, it broke out spontaneously the moment the hands were dried. The effect did not extend beyond the hands, and the flames being smothered the burns healed readily and kindly, with no other loss of tissue than a small amount of epidermis and one or two nails.

The question naturally arises, may not the hands of these two patients have been previously immersed in some chemical solution?

There can be no doubt as to the authenticity of cases reported in which the bodies of persons have been almost wholly consumed without materially damaging surrounding inflammable materials. A case was reported in one of our exchanges during the last year in which an old soldier was partly consumed while lying in a hay-loft, without setting fire to the hay. The stick of a Lucifer match does not burn with a bright blaze till the sulphurous end has been consumed. Perhaps the gases generated in the burning tissues of the body prevents the formation of a flame.

One striking feature common to all the cases recorded is that the subjects were saturated with alcoholic liquors.

Dr. Stockwell continues as follows:

The development of the electrical spark on the one hand, and the imbibition of all the tissues of the ecomony with spirituous and inflammable liquids on the other, especially when at the same time there is an abundant deposit of adipose in the cellular substance, are circumstances which many physiologists have considered as all sufficient to procure and feed a catacausis. It is well known to pathologists, also, that alcoholic beverages, employed to excess, may be quickly absorbed into the blood, and thus speedily diffused throughout every part of the body. For example, MM. Cuvier and Dumeril were struck with the strong alcoholic odor exhaled from every part of the corpse of a man who met his death by swallowing an extraordinary amount of brandy in compliance with the terms of a wager. Again, M. Breschet mentions observing the same phenomenon in a criminal after execution, whose last moments had been gratified by repeated libations of spirits; and he adds the important fact that "fat animal substances are always found to burn much more quickly than lean, and still more quickly if saturated with alcohol." He observed this frequently in the anatomical theatre of Paris, when he wished to speedily get rid of the debris of the dissecting table.

M. Marc concluded, from numerous observations and experiments, that animal bodies may engender and become impregnated with inflammable gaseous matters, and that these may ignite, either upon the approach of any lighted body or by the action of an internal electrical current; and a case is by him cited, occurring in the Hotel Dieu, which in a measure corroborates the first portion of this hypothesis:

The body of a male patient, that died suddenly from obscure disease, was held for autopsy, but owing to preoccupation of the hospital staff, was not examined until the eighth day, when it presented unmistakable evidences of decomposition. The whole surface of the corpse was swollen and bloated from distension of cellular tissue, and covered with vesicles containing either reddish serum, or gas. The cavities of the abdomen, thorax, and also the ventricles of the brain, were found distended with the same gas that filled the vesicles, presumably carburetted hydrogen since it caught fire and burned with bluish flame on the approach of a candle.

With such evidence before us, and knowing that decomposition to considerable extent may take place before life is extinct, the theory of spontaneous combustion in the human or animal subject seems less problematical. Moreover, it is not at all improbable that where carburetted hydrogen is developed, it may be replaced on occasions by the still more inflammable phosphuretted gas, which ignites upon mere contact with atmospheric air; there is absolutely nothing in the chemical combination and construction of the physical ecomony that is inimical to such evolvement. The ignis fatuus, "will-o'-the-wisp." and so called "elf-candles" are supposed to owe their origin to phosphuretted hydrogen, and they are found only in neighborhoods where decompositions of animal and vegetable matters are constantly occurring, such as cemeteries, marshes, dung-heaps, and low wet grounds. In Oriental and tropical countries where interment is practised, they are most frequently observed in and about tombs and burial places, especially where bodies are inhumed at shallow depths and the torrid heat of the sun has baked the surface, causing the ground to crack and gape, allowing free passage for the gaseous products of decomposition. Neither have we any authority for denying that phosphuretted gas may be developed as a sequal to chemical change within the living body, for the elements essential thereto are never absent; and in such case, if oxygen be present, the mixture necessarily assumes an explosive character adequate to effect the rapid combustion affirmed of spontaneous catacausis. It may likewise be remembered that "elf-candles" and "will-o'-the-wisps" are unable to ignite ordinary substances, and that the combustion of human bodies that has been deemed spontaneous has proved equally inert!

The medico-legal aspects of catacausis, whether spontaneous or communicated, are particularly interesting: First, to quote Stille and Wharton, because, "In approaching the examination of the question, whether such a phenomenon is really possible, we encounter the usual obstacle to the discovery of the truth, viz., a doubt as to the authenticity of the fact upon which the belief reposes." These authors quote 3 cases, none of which however, are as satisfactorily substantiated as those already presented in this paper, and which appear to be unknown or altogetheroverlooked by jurists. Second, the general doubt, that must exist as to spontaneity. Third, the incompetence of the majority of witnesses, who are of the laity and biased by both superstition and excitement.

However, accepting the evidence in the main as true, one strange fact remains—that, of the seventy-two cases of spontaneous combustion and catacausis that are chronicled in medical literature (some dating back more than two centuries), the majority are women in advanced life, addicted to the immoderate use of gin, a liquor largely imbued with empyreumatic oils. This may be further accounted for by the tendency of the sex to the accumulation of adipose, and that drunkenness when indulged in by women is usually carried to greater excesses than by men, which is to be expected from the more exquisitely sensitive nervous organization of the former.

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## The Value of a Medical Reference Library.

At a recent meeting of the Chicago Medcal Society (*West. Med. Reporter.*) Dr. Bettmann read a paper on "The Need of a Medi-

cal Reference Library in Chicago." He placed especial emphasis upon the value of medical periodicals, knowing that everything that is new in any department of medical science finds its way before the profession, primarily through the medical press. He says that many of the papers read before the Chicago Society are limited to mere reports of clinical histories; no mention being made of the labors of the earnest workers who have enriched our literature with an analysis of similar and perhaps more instructive cases.

The simple mention of an author or a work in a paper published in a medical journal is of little practical value to the majority of those who read the papers as it is altogether beyond their means to possess the works referred to. But the value of an article is greatly enhanced by containing a concise report of "deductions drawn from experimental and clinical research, and results arrived at from statistical calculations."

One of the advantages of having such a reference library is that the writer may learn whether he is reporting something comparatively new, or simply giving facts with which nearly every other member of the profession is familiar. A concise and accurate report of any case of serious illness is of some value but it fails to be appreciated when the author poses as a discoverer of important facts, which are altogether old to his readers.

If a physician will read carefully each issue of three leading weekly medical journals and keep them on file in his office for reference, he will soon learn the major part of that which is new in his profession.

Dr. Bayard Holmes, in speaking on Dr. Bettmann's paper, said that the librarian of a reference library should be assisted by a number of boys whose duty would be to sort the books and also to distribute them to the members of the library association at their homes, to be read during the night or the following few days, and then returned to the library.

This would indeed be a model method of conducting a library in a large city, but the objection is that it would take too much money to support it. The New York Academy of Medicine has an annual expense of nearly four thousand dollars, besides owning the building they occupy.

The most complete medical library in this country is in the Surgeon General's office at Washington, D. C. By paying a moderate fee any physician in the United States can have in a short time the bibliography upon any subject he may wish to write, and if he desires it he may have the literature expressed to him to be used for a limited time and returned, provided he assumes the risk of loss to the Library in so doing. Thus we have a National Circulating Library.

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## NEWS ITEMS.

A Paris correspondent writes the *Virginia Med. Monthly*: "Considerable excitement prevails here in medical circles respecting the subject of artificial human fecundation. You will remember the experiments in this regard which were made a few years since by a noted American specialist, and how much they amazed the profession—especially the English portion of it. Nevertheless, the matter has been revived here, and some of the most serious of the Paris faculty have gone largely into it, and with considerable success, at least pecuniarily. Indeed, women desirous of progeny are flocking to Paris from all quarters of the globe, to have the syringe accomplish that which nature has rendered otherwise impossible. How the child of this unnatural and doubtful paternity will relish the reflection that he is in reality a "son of a squirt" remains for the future to disclose; but, in the meantime, women are made happy, and the doctors grow rich accordingly. *Vive la blague*?

The Paris physicians will have an opportunity to observe whether or not the association of the father with the mother, plays a part in the development of the physical features of the child.

The *Western Druggist* says the habit, of converting metric weights and measures into apothecaries' weights and wine measure, by druggists who receive prescriptions written in the decimal system,is a bad one,and is liable to give rise to error, no matter how familiar the individual is with the principles involved in changing a denomination in one system to a corresponding one in the other. He recommends that prescription druggists keep sets of weights and measures of both systems.

The same principles apply in the filling of prescriptions for spectacles. When glasses are prescribed in the metric system they should be ground by the metric system. It does not matter so much when simple sphericals are ordered, but cylinders require the greatest exactness in their manufacture.

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Mr. Lenox Browne, reported a case (*Brit. Med. Jour.*) to the Pathological Society of London, in which a child, three years of age had been the subject since its birth of a papillomatous growth which so constricted the glottis as to threaten asphyxia. An attempt was made at intubation, but without success, and tracheotomy was promptly performed. Active hemorrhages had taken place twenty-four hours later, due to sudden increase of the volume of air admitted through the tracheotomy tube. The autopsy showed that the lungs had never been properly expanded, being no larger than those of a new-born infant. Mr. Browne pointed out that the case presented a hitherto unrecorded danger of tracheotomy in cases of congenital obstruction of the air passages.

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Dr. R. B. Weaver, of Philadelphia, has recently finished and mounted a dissection of the entire cerebro-spinal nervous system in one piece; all the nerves both cranial and spinal being traced to their terminal filiaments. It took him nearly five months, working eight to ten hours a day to complete the dissection.

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Picrotoxine is recommended as an antidote for morphine poisoning.

## SELECTIONS.

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### THE TREATMENT OF ACUTE AND SUBACUTE NEPHRITIS.

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BY FRANCIS DELAFIELD, M. D.,

Prof. of Pathology and Practical Medicine in the College of Physicians and Surgeons, New York.

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Although I am to bring forward for your consideration this evening the treatment of acute and subacute nephritis, I must acknowledge at the outset that I have no new drug to propose, no new plan of treatment to advocate. Rather is it my object to determine, if possible, how plans of treatment and drugs already employed are to be intelligently applied in individual cases of the disease. For it is of importance not only that patients should be cured of their disease, but that this cure should be effected as speedily and as comfortably as possible; or, if the disease is an incurable one, that life and the capacity for labor and for enjoyment should be prolonged to the utmost.

To give an idea of the methods of treatment ordinarily employed, it will be sufficient to quote shortly from a French, a German and an American author.

Labadie-Lagrave in the *Nouveau Dictionnaire de Medecine et de Chirurgie*, xxx, p. 761, says:

"In acute nephritis the activity of the urinary secretion is the measure of the situation of the patient. The principal indication is to favor diuresis. Ordinary diuretics, including digitalis, are dangerous, but in milk we have at once a diuretic and food. To make up for the insufficient action of the kidneys we employ warm baths and drastic cathartics. The dropsy does not require special treatment. Vomiting, if not excessive, is to be regarded as salutary. In the uremic attacks we employ bleeding, chloroform and chloral hydrate. In utemic coma we advise inhalations of oxygen gas with the administration of caffeine.

As soon as convalescence is established the patient should return to a solid diet and take iron and tonics."

Struempell, *Prac. of Med.*, English translation, p. 794, says:

"There is no way of directly affecting the inflammation of the kidneys. The chief object of treatment is to prevent the injurious results of the defective elimination of the solid and fluid constituents of the urine. To effect this object the patient should be kept in bed, on a milk diet; and the skin by means of diaphoretics, the intestines by means of cathartics, should be made to act vicariously for the kidneys. Dropsy is to be treated by sweating, cathartics, diuretics and puncturing the skin of the serous cavities. Vomiting and diarrhea are to be regarded as salutary. Uremic attacks are to be treated with cathartics, chloroform, sometimes morphine."

Flint, *Prac. of Med.*, page 872, says:

"The objects of treatment are: 1. Diminution of the intensity of the renal inflammation, promotion of resolution, and restoration of the excretory functions of the kidneys. 2. Diminution or removal of dropsical effusions. 3. Elimination of urea through the skin and gastro intestinal mucous membrane if uremia exist or be threatened. The patients are to be kept in bed and on a fluid diet. To diminish the nephritis dry cups or hot fomentations are to be applied over the kidneys and saline laxatives given. For the dropsy we use cathartics, the saline diuretics and digitalis; for the elimination of urea, cathartics, pilocarpine, hot air baths, bitartrate of potash, infusion of digitalis, decoction of broom, or plain water; for coma and convulsions, venesection, chloroform, chloral hydrate; during convalescence a generous diet, exercise and iron."

Most other authors take much the same same view of the treatment; that its main object is to make up for the diminished quantity of urine by action on the skin and intestines; and that the principal danger of an acute nephritis is the accumulation of excrementitious substances in the blood.

Some authors, in addition, believe that they can rest the kidneys while they are inflamed, by producing diaphoresis or catharsis, and that such rest will diminish the severity of the nephritis.

Some think that by a sufficiently large ingestion of fluids the inflammatory products can be washed out of the kidneys; a procedure which seems to be analogous to the treatment of scouring the blood, which is practised by some eclectics.

Digitalis is regarded with apprehension by some, while others warmly advocate its use as a diuretic, or as a remedy for the febrile movement (Gerhardt).

Morphine in considerable doses is employed by some for the relief of uremic attacks; in small doses by others to relieve vomiting and restlessness; while still others deprecate its use under any circumstances.

General bloodletting seems to be restricted by most to the nephritis of pregnancy, and to the very severe forms of the disease attended from the first with high temperature and cerebral symptoms.

The disposition at the present time to direct attention and treatment to the symptoms of the nephritis, rather than to the nephritis itself; to the dangers of a diminished excretion of urine, rather than to the bad effects of kidneys in a state of acute inflammation is so general and decided that it may be wholesome to look at the subject from the opposite point of view, and to direct attention not to the functions of the kidneys, but to the kidneys themselves.

In order to do this we must at once separate the cases of acute nephritis from those of subacute nephritis, the condition of the patients being altogether different.

### 1. Acute Nephritis.

Most of the cases of acute nephritis which we meet with complicate scarlatina, diphtheria or pregnancy. Less frequently the nephritis complicates one of the other of the infectious diseases or severe inflammations, or it is a primary lesion.

In all cases of acute nephritis one morbid change is constant—congestion and exudation from the bloodvessels. The exudate consists of blood-serum, white blood-cells and red blood-cells, which escape for the most part into the tubes and are mixed with the urine, to a less extent into the stroma of the

kidney. The principal part of the exudate is regularly serum, but in some cases the emigration of white blood-cells is considerable, and in some cases with a large emigration of white blood-cells the exudation of serum is but small. In addition to this constant change in the kidney, other lesions may or may not be added. There may be swelling and multiplication of the cells covering the tufts of the glomeruli. There may be degeneration and death of the renal epithelium. There may be a growth of the capsular cells of the glomeruli, compressing the tufts of vessels. There may be a growth of new connective tissue in the stroma of the kidneys.

According to the severity of the nephritis, symptoms of varying number and severity are presented by the patients.

In the very mild cases the only symptom is a diminution in the quantity of the urine, and the presence in it of the exudate from the kidneys—the albumin, casts and red and white blood-cells.

In the more severe cases the same changes in the urine exist and there are added constitutional symptoms—fever, prostration, loss of appetite, nausea, vomiting, anemia.

In the still more severe cases there are also head-ache, delirium, stupor, convulsions, labored heart action, hypertrophy of the left ventricle, a pulse of high tension and dropsy.

In the cases in which the urine is suppressed for a number of days, the patients develop alternating stupor and delirium and pass into the typhoid state.

The regular duration of a fairly developed acute nephritis seems to be about four weeks. Its natural termination, whether with or without treatment, is in recovery. But the more severe cases may prove fatal; the cases in which there is from the first a growth of new connective tissue in the stroma, are likely to become chronic.

With a nephritis of such a character and attended with such symptoms, what are the indications for treatment?

In the very mild cases evidently no treatment is necessary, except to keep the patients in bed and on a fluid diet.

In the more severe cases it is often proper to interfere in order to secure greater comfort and safety for the patient.

The different conditions which may call for treatment are: The nephritis itself. It is to be remembered that, although the quantity of urine voided is small, its quality is good, for it contains a fair proportion of excrementitious solids to the ounce of fluid; that convulsions and coma belong to the early days of a nephritis with scanty urine, while prolonged anuria is accompanied rather with the typhoid state; that the excretion of urine must naturally relieve the congestion of the kidney, so that it is better for the kidney to perform its funtions than to be at rest; that so long as the congestion of the kidneys persists the quantity of the urine will be diminished; that a considerable diminution in the quantity of urine continued for one or two weeks is often perfectly well borne.

It is not, therefore, necessary to pay attention to the diminished quantity of urine, and to try to make the skin or the intestines do the work of the kidneys; it is wiser, by relieving the congestion of these organs, to enable them to do their own work, knowing that the moment they begin to do this their congestion will be still further diminished, and that although the nephritis still continues, the excretion of urine may then be sufficient.

Fortunately, we have at our command means by which the congestion of the kidney can be diminished, not completely, it is true, but partly; not for any length of time, but for short periods.

These means are: Causing the blood to collect at the surface of the body by the application of heat to the entire skin; the use of dry cups or wet cups, or heat over the lumbar region; the empirical use of calomel or sulphate of magnesia, in small doses, repeated at short intervals, until the bowels begin to move; the use of such drugs as will diminish the increased arterial tension. While the nephritis is still active, however, we do not expect that by the use of any means the urine will

be brought up to its full normal quantity, but only that a sufficient quantity be passed to insure the safety of the patient.

The febrile movement in acute nephritis requires no treatment.

The prostration, loss of appetite, nausea, and vomiting only call for rest in bed and a fluid diet.

The anemia ought unquestionably to be prevented or relieved, but while the nephritis is still active I know of no way in which this can certainly be done. When convalescence is established then the anemia readily improves with the ordinary methods of treatment.

The cerebral symptoms are those to which most attention has been directed. There can be no question that they regularly accompany a contraction of the arteries with increased tension and labored action of the heart. No matter what views one may entertain as to the cause of this change in the circulation, I believe that treatment is best directed to the arteries themselves rather than to the uncertain cause of their contraction. Fortunately, we possess drugs which act promptly and efficiently for this purpose. Of these drugs, the most suitable are aconite, chloral hydrate and opium, preferably given in small doses and at regular intervals, so that their use can be continued for some time.

It is wise to watch the condition of the heart and arteries, and as soon as the condition of increased arterial tension is developed, not to wait for the manifestation of the cerebral symptoms, but to try to relieve it at once.

The treatment of a case of acute nephritis resolves itself, therefore, into the treatment of the nephritis itself, and of the contraction of the arteries which may accompany it. To carry out this treatment, I can, from experience, strongly recommend the following routine: The patient is put to bed and on a fluid diet; the entire skin is washed clean every day; for two successive days drachm doses of sulphate of magnesia are given every hour until one ounce has been taken, or the bowels begin to move; after this, the tincture of aconite is given in doses of one minim every hour.

Within a few days the albumin in the urine will have diminished, the pulse will be soft, the dropsy will have disappeared, but the patient will be anemic. The milk is now gradually replaced by solid food, and iron and oxygen are given.

### II. Subacute Nephritis.

The distinction between acute, subacute, and chronic inflammations is an arbitrary one, but yet often of real convenience. This is especially true of nephritis.

In acute nephritis, as we have seen, the inflammation is an acute and temporary one attended with congestion and exudation. The interference with the function of the kidney is only with the quantity of the urine; the urine that is produced is of good quality. The symptoms are due to the nephritis itself, and to the accompanying contraction of the arterial system.

In subacute nephritis, on the contrary, the inflammation is subacute and long continued; there is no congestion; the exudation is of the profuse, almost dropsical character that we meet with in other subacute inflammations, such as pleurisy with effusion; there are permanent changes in the stroma and glomeruli of the kidney. The interference with the functions of the kidney is not with the quantity of the urine—for this is often in excess—but with its quality, the proportion of solid matters steadily decreasing as the disease advances. The symptoms are largely due to the effect of the nephritis on the composition of the blood and the nutrition of the body. The anemia, the dropsy and the loss of strength are the prominent features of the disease. Contraction of the arteries is absent, or present at intervals. The cerebral symptoms are chronic rather than acute.

It may happen, however, that in the course of a subacute nephritis there will be exacerbations of the inflammation, during which the changes in the kidney and the symptoms are the same as those of an acute nephritis.

Subacute nephritis is especially common as a primary disease, and as a sequel of scarlatina and diphtheria.

The patients lose strength, they become anemic; they suffer from nausea, vomiting and diarrhea; there may be inflammation of the retina; the arteries are for the most part relaxed, but may sometimes be contracted; the cerebral symptoms are more frequently chronic than acute, and dropsy is apt to be a marked symptom.

The urine may be somewhat diminished, but is often in excess. The specific gravity and quantity of solid matters excreted diminish as the disease progresses. The quantity of albumin mixed with the urine is considerable.

Some of the patients continue to get worse in every way, and die within one or two years.

Some of them exhibit some or all of the symptoms of the disease for weeks or months, then seem to be partly or completely well; and then again become ill, and so may go on for many years, sometimes better, sometimes worse.

In some of them, acute exacerbations of the inflammation may give for a time the symptoms of acute nephritis. A very few patients seem to recover permanently.

The conditions which require treatment in these patients are:

1. The subacute nephritis.
2. The changes in nutrition and in the composition of the blood.
3. The dropsy.
4. The condition of the arteries.
5. The cerebral symptoms.
6. The acute exacerbations of the inflammation.

For the nephritis itself the most efficient treatment is the residence of the patient in a suitable climate. The climate should be warm, and the particular locality selected should be one where the patient can lead an outdoor life.

If the patients remain in a cold climate, it will be necessary to confine them to the house for much of the time. Except during the exacerbations of the nephritis the patients should take as much of solid foods and of fats as they can digest. The excessive use of milk and of the mineral waters is to be avoided. It is possible that the use of opium or of the bichloride of mercury may favorably affect the nephritis.

The anemia is a most important symptom. There is a diminution in the quantity of hemoglobin and in the number of red blood-cells. The most efficient treatment for this is the internal use of iron and the inhalation of oxygen combined with massage and the relief of constipation. With this treatment in many of the patients the improvement is satisfactory, but in some no such improvement takes place.

The dropsy may never be more than an inconvenience, or it may be the most distressing feature of the case. It is apt to reach its greatest development with low arterial tension and often with a large excretion of urine.

In some cases the treatment of the anemia and the regulation of the diet will answer at the same time for the treatment of the dropsy. In other cases we must employ different means.

When a subacute nephritis has lasted for any length of time the quantity of urea excreted falls to six or seven grains, or even less, to the ounce. The patients ought therefore to pass daily seventy or more ounces of urine. If we wish to diminish the dropsy by increasing the quantity of urine, it is well not to increase the urine more than will be sufficient to enable the patient to excrete his five hundred grains of urea a day.

The quantity of fluids which the patients drink should be regulated, as far as possible, according to the quantity of urine passed; not allowing the former to exceed the latter.

In the extreme cases of dropsy we are obliged to purge, to sweat, to puncture the skin, to tap the serous cavities. But when these measures become necessary it means that the case is an unfavorable one.

The condition of the arteries and of the left ventricle of the heart should be watched throughout the disease. High arterial tension can often be controlled by nitro-glycerine, chloral hydrate, or opium. Low arterial

tension can, theoretically, be heightened by digitalis or ergot, but I have found no advantage in doing this.

To avoid the cerebral symptoms we have constantly to watch the excretion of urea and the condition of the arteries. The quantity of urine should be kept large enough to make up for its diminished solid contents; increased arterial tension should be at once relieved.

The acute exacerbations of a subacute nephritis are to be managed in the same way as an attack of acute nephritis.

As I stated at the beginning of this paper, I am not able to offer any new plan of treatmant. I have simply tried to show that some of the old plans may perhaps be more intelligently applied; and that, while symptoms have to be treated, that this may be done largely with direct reference to the nephritis. I trust that the discussion which will be elicited may be of more value than the paper itself.—*Med. News.*

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## A MEDICO-LEGAL CASE, IN WHICH THE NEEDLE OF AN ASPIRATOR WAS PLUNGED PAST THE RIGHT PLEURAL CAVITY, THROUGH THE DIAPHRAGM, AND INTO THE LIVER, WITH FATAL EFFECT.

BY J. M. BALL, JR., M. D., WATERLOO, IOWA.

Cases of alleged malpractice, in which an aspirator is the instrument producing death, are very rare; so rare, in fact, that after a prolonged search the writer has been unable to find a single recorded instance. A case which merits the title of this paper has just been tried a second time in the destrict court, convened in this city, and has attracted great attention in local medical circles. The first trial was had in February, 1886, and in each instance a verdict was returned in favor of the plaintiff. The present paper is written with an honest desire to benefit the profession and to sound a note of warning in regard to an operation which so many of the faculty are called upon to perform, and in which the possibility of producing harm seems rarely to have entered the operator's mind. The petition of plaintiff sets forth that the defendant is a practicing physician in Waterloo, Iowa; that said A. R., in April, 1885, being in feeble health by reason of malarial poisoning, employed the defendant in his professional capacity; and that the defendant accepted such employment, thereby tacitly agreeing to bring to the treatment and relief of the deceased a reasonable amount of professional skill.

The plaintiff further alleges that the defendant made an incorrect diagnosis of the case; and decided "that it was necessary and requisite to the treatment of said R. that a certain surgical instrument known as an aspirator should be inserted into the body of said R. And plaintiff alleges that the use of said instrument was unnecessary and without reasonable excuse. That, therefore, and in pursuance with his determination, the defendant proceeded and did insert into the body of the said R. the instrument aforesaid. That said instrument was by the defendant ignorantly,unskillfully, carelessly, and negligently inserted and used; the liver, diaphragm, and peritoneum of said R. thereby wounded and cut; great pain and suffering inflicted upon said R., and that therefrom said R. did thereafter, and on or about April 28, 1885, die." Damages were asked in the sum of five thousand dollars.

In his answer to the petition of the plaintiff, the defendant "denies that the use of the aspirator by himself in making a diagnosis of the disease of which the said R. was ill, was wrongful, or without warrant or excuse therefor.

"That, as to whether said instrument caused great pain and suffering of the said R.; as to whether the liver, diaphragm, and peritoneum were punctured or cut by said aspirator, the defendent has not sufficient information to form a belief as to the truth thereof and asks that such allegations be taken as denied."

The undisputed testimony shows that A. R., a farmer by occupation, æt. 38 years, was a strong, robust and healthy man on December

24, 1884, at which time he started on a journey to visit friends in New York; that he was absent about ten weeks, and that while absent he contracted a severe cold which settled on his lungs. In March, 1885, he consulted a physician, who told him that he was suffering from malarial poisoning. Dr. —— was first called to attend the deceased on April 20, 1885. He found marked dulness over the right side of the chest, extending downward from a line drawn horizontally across the right side, and about one inch above the nipple. The doctor expressed the opinion that his patient was suffering from pleurisy. Some remedies were prescribed, and the defendant returned home. This was on Monday. On the following Thursday the doctor returned with an aspirator, and proposed to aspirate the right pleural cavity for diagnostic purposes. This was consented to by the patient. The doctor did not have counsel, and the persons who assisted in the operation were laymen. The aspirator was used but no fluid was found. Immediately thereafter his breathing became more rapid and difficult, and great pain, which was paroxysmal and frequently recurring, was complained of in the right hypochondriac region. In twenty-four hours he was delirious, and his abdomen tympanic and swollen. At 4 A. M. of the following Tuesday the patient died. The needle of the aspirator used was found on measurement to be one millimetre in width, and one-eighth inches in length, from the eye to the shoulder.

The post-mortem examination showed that the thoracic organs were normal, except the lower lobe of the right lung, which was the seat of the hepatization. The abdomen was tympanic, and showed evidences of diffuse general peritonitis. The superior surface of the right lobe of the liver presented a wound about one and one-eighth inch in length, and varying from one-eigthth to three-sixteenths of an inch in depth. Between the superior surface of the liver and the under surface of the diaphragm, and adherent by plastic exudation to the latter, were several flattened clots of blood each about the size of a half dollar. The diaphragm, at a point corresponding to the wound in the liver, presented evidence of an intense inflammation.

Tne conflicting testimony is in regard (1) to the seat of puncture of the chest-wall, and (2) to the depth to which the needle was introduced.

1. The defendant swore that he inserted the needle at the sixth intercostal space, on the right axillary line. A gentleman present swore the "puncture was about two inches below and a little to the right of the right nipple."

2. The defendant stated under oath that he first introduced the needle about an inch, and then turned the stop-cock of the aspirator; then, obtaining no fluid, he pushed the needle about half an inch further with a similar result. The testimony of the spectators leaves it doubtful as to the depth to which the needle was inserted.

*Verdict.*—At the first trial the Court instructed the jury that, inasmuch as the plaintiff had introduced no testimony to show the value of the deceased's life, damages if found at all, could be merely nominal, such as six cents on the dollar. Jury found for plaintiff in the sum of a dollar. Verdict was set aside by the Court as unwarranted by the evidence. At the second trial the jury found for the plaintiff in the sum of fifty dollars.

*Remarks.*—The operation of thoracentesis is of great antiquity, being mentioned in the writings of Hippocrates, Galen, Paulus, Ægenetæ and Celsus. It was performed by them for the relief of empyema, but the operation as applied to cases of hydrothorax was not performed previous to the first part of the seventeenth century.

Among the important questions bearing upon the preceding case, and on which experts were requested to enlighten the jury, are the following. They are appended for the benefit of the reader, and may furnish food for thought.

1. "Do you know of any cases on record in the medical text-books where the surgeon, in attempting to remove an effusion from the pleural cavity, has plunged his instrument

through the diaphragm, into the liver, with fatal effect?"

*Answer.*—Donaldson, in "American System of Medicine," vol. iii., p. 533: "Aran plunged a trocar into the liver when operating through the same point," viz., the seventh intercostal space. Aitken, "Science and Practice of Medicine," vol. ii., pp. 673 and 674, edition of 1866, says: "The most appropriate spot for puncture is between the seventh and eighth, or eighth and ninth, or ninth and tenth ribs, in a line let fall from the lower angle of the scapula; but as a rule, let the trocar be introduced as low down as possible consistent with the safety of important organs in the chest or abdomen. The exact position of the liver and spleen must be determined first in every instance. Laennec himself once transfixed the diaphragm and pierced the liver, and that through the fifth intercostal space. An enlarged liver or spleen may be detected as high as the fifth rib. Dr. Watson once witnessed an operation in which the trocar was pushed through the diaphragm into the spleen, which was unusually large. The patient died a day or two later of peritonitis." * * * "The point of the instrument should be raised rather than depressed, so as to avoid injury to the diaghragm, liver or spleen."

II. "Supposing a needle three inches long be inserted into the sixth intercostal space, over the right side and on the axillary line, and at a right angle to the chest wall, what important organ would such a needle pass through or injure, assuming the parts to be in their normal position?"

III. "Would it be possible in your opinion to produce a wound, one inch in length and one eight of an inch deep, by means of the needle of an aspirator introduced at right angles to the body, for a distance of three inches, into the seventh intercostal space on the right side, assuming the organs to be in their normal position?"

IV. "What is the distance from the sixth intercostal space on the mid-axillary line of the right side to the nearest point of the liver, assuming the parts to be in their normal position?"

V. "Assuming the needle of an aspirator to be inserted at the sixth intercostal space of the right side, passing through both layers of the pleura, through the diaphragm, and through both layers of the peritoneum, would it be possible to produce, in the convex surface of the liver, a wound one inch in length and one eighth of an inch in depth?" —*Med. Rec.*

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## THE CURE OF BACILLARY PHTHISIS.

The *Med. News* has the following from the *Internat. Klein. Rundschau*, by Louis Weigert:

Two years ago I recommended a work concerning the therapy of diseases of bacterial origin. For reasons which I cannot now particularly enumerate I discontinued it in order that I might restrict my attention to a part of the work, viz., the tuberculosis. Theoretically I made the following deductions:

All attempts hitherto made to destroy the tubercle-bacilli in a body infected by them failed for the reason that they possess a greater power of resistance against antiparasitic agencies, than do the cells of the animal organism themselves.

Just as resistant as the tubercle-bacilli are against such remedies, just so susceptible are they to the influence of temperatures, be they either higher or lower than their optimum temperature.

All varieties of microbes, as was first proven by Pasteur by reducing the virulence of the bacillus of chicken cholera, and as taught later by Toussaint and Pasteur by their protective anthrax inoculation, are thus reduced by the action of increased temperatures.

The temperature limits within which the tubercle bacilli can flourish are particularly narrow. Were it possible now, by a means of a discontinuous strerilized process, to hinder the tubercle-bacilli in their development and thus to diminish their virulence, and were it possible for the human organism to bear the inhalation of highly heated air without detriment, then we would have ob-

tained a means in such inhalations of combating bacillary phthisis.

Thus reasoning, I instituted experiments in various directions, with the following results:

1. The correctness of the announcements made by other investigators concerning the temperature limits, and the effects of various degrees of temperature upon the tubercle-bacilli.

2. The possibility of lowering their developmental and procreating capacity by means of discontinuous sterilization.

3. That dry air heated to 150°—180° C. (302°—356° F.) may be inhaled by man without difficulty for several hours, and that such inhalations produce a hurrying of the pulse only during the first few minutes; a diminution in the frequency of respiration, with at the same time a deepening of the inspirations; an elevation of the general temperature of the body by ½°—1° C.; the expired air shows a temperature of at least 45° C.; within an hour after completing an inhalation the temperature of the body returns to normal, and the general well-being remains undisturbed.

My experiments thus far instituted for determining the temperature of the air contained in the alveoli, and that of the tissues during an inhalation, have thus far not maintained any positive result.

I commenced a series of experiments, with the purpose of determining whether, and in which stage of the treatment, the virulence of the tubercle-bacilli contained in the sputa of consumptives, was, through such inhalations, diminished and thus removed, simultaneously with the reception of a tuberculous patient for treatment by means of highly heated dry air.

I began treating the first patient, June 7, 1888. Since then I have treated a very large number of consumptives after the same manner, and moreover, almost throughout with such favorable results, that, indeed, every doubt as to the correctness of my premises must be excluded. I intend shortly to have appear in print the clinical history of my first 50 cases, and thus place them at the disposal of my colleagues. Meanwhile I shall limit myself to a representation, seriatim, of the general results attained:

1. Removal of dyspnea.
2. Lessening of cough.
3. During the first few days, especially while inhaling, increased expectoration; later on considerable diminution, up to its complete disappearance.
4. Cessation of the fever.
5. Removal of night sweats.
6. Improvement of appetite.
7. Increase of strength.
8. In a short time, in most cases, a complete standstill of the acute process.
9. Less frequent occurrence, and later on entire freedom from hemoptysis.
10. Removal of catarrhal phenomena.
11. Clearing up of previous infiltrated parts.
12. Disappearance of bronchiectases.
13. Cicatrization of cavities.
14. An increase in weight takes places, particularly in such cases as previously had been much emaciated, and also in such in whom has occurred not only a standstill of the acute process, but already a beginning of the healing process. The absence of increase in weight at first is, however, easily explainable, when it is considered that patients treated according to my method are not subjected to any extra diet whatever, and that the inhalations require more or less bodily exertion.
15. Microscopic examinations show a gradual decrease of the elastic fibers in the sputa up to a total disappearance of the same, as also a rapid diminution of the pus corpuscles. During the early period of the inhalations, it seems to me that there occurs an increase of the bacilli in the expectoration; but later on there is shown a considerable diminution of the same.

That a cure can only be a gradual process can easily be understood from all that has now been said. An immediate killing of the bacilli, by means of hot air inhalations only from time to time, cannot be made possible, but simply their discontinuous sterilization. The inhalations continue but for a few hours daily; only during this time are the

bacilli exposed to weakening temperature, and after all, this is not as high as would appear. For though the inhaled air at the mouth is at a temperature of 160° C. (320° F.), it cools considerably on its way to the lungs by being in contact with tissues and the blood circulating therein, of a temperature of only 37.50 C. (112° F.). Now, inasmuch as this again must have become still further cooled on its return passage from the lungs, we may infer that the air contained in the pulmonary passages during an inhalation must be at a temperature many degrees higher than 45° C.

The experience thus far gained enables me to give the following definite directions:

1. The effort must be made to increase the duration of the inhalations as rapidly as possible, beginning with half an hour twice daily, up to two hours or more, twice a day. The more or less rapid lengthening of the sittings, as also the eventual shortening of the same, must be adapted by the observant physician to the individual condition of the patient. Never must the inhalations last longer than is comfortable and agreeable to the patient.

2. The patient must be encouraged to make the deepest possible, and later on, forced inspirations.

3. The temperature of the air during these inhalations, as indicated of course by the thermometer in the breathing tube, beginning with 100°, must as rapidly as possible be raised to about 250° C., which can be accomplished within two or three days without complaint on the part of the patient. The air on its way from the thermometer to the mouth is considerbly cooled, and as the valves do not shut perfectly, outer air at 250° (thermometer) amounts in reality to only about 150°.

4. Should pulmonary hemorrhage (hemoptysis) occur, the inhalations must be suspended.

5. With hemoptysis the inhalations are to be continued, with the direction however that the inspirations must be as shallow as possible.

6. With acute pleuritic inflammation, rule 5 is to be observed, excepting when very severe, then rule 4.

7. After having finished a sitting, the patient must keep the room for at least half an hour; then only may he be allowed, and even encouraged—only however in favorable weather—to exercise in open air.

As a matter of course the treatment by means of hot air inhalations permits the fulfilling of any other therapeutical indication that may appear necessary, more especially the administration of antipyretics, etc.; contra-indications, I know of none.

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## IS APOMORPHINE A SAFE EMETIC?

BY JOHN BROWN, M.B., B.CH. VICT., ETC.

Recently the above query has appeared in the journal. I wrote an article on "Apomorphine, a Safe, Certain and Quick Emetic," which appeared in the journal for May 12th, 1883, p. 907. It occurred to me that it might be of interest to those correspondents and others if I gave a brief account of my further experience of this most valuable emetic. There are few, if any, of the new drugs introduced into the British Pharmacopeia which have sustained the high opinion of their therapeutical value with such unvarying success and with so few failures as apomorphine.

The following ten cases are taken *seriatim*. I prepare my own solution of apomorphine as follows: Apomorphin. chlorid. gr. j ; sp. vini rect. ♏20; aquæ ♏110. Each 10 minims equals one-twelfth of a grain of the alkaloid.

Case I.—A.B., æt. about 30; 10 minims administered hypodermically was followed in five minutes by free and copious vomiting. No bad after-effects.

Case II.—J.H., æt. 5 years, swallowed ammonia; 2 minims were given; in three minutes afterward there was free emesis. The child did remarkably well.

Case III.—J.J., æt. 4 years, swallowed a clay pipe. Dr. S. sent for me to give apomorphine, as other emetics had failed. I gave 3 minims, and in six minutes, without any previous nausea, vomiting followed.

Case IV.—A.E.B., æt. 2 years, supposed to have swallowed a farthing; 2 minims were administered; this was followed in six minutes by vomiting.

Case V.—C.M.B., æt. 14 months, swallowed a button; 2 minims were given; in six minutes copious vomiting followed.

Case VI.—Mrs. M., æt. 24, suffering from most violent spasms of the laryngeal muscles due to irritation of the stomach from a mass of indigestible food; 10 minims were given, and produced very free vomiting, which was repeated two or three times. The result was speedy relief of the spasms; no prostation nor collapse.

Case VII.—H.M., æt. 4 years, was supposed to have swallowed a quantity of indigestible fruit; 3 minims were given, and in eleven minutes free emesis followed.

Case VIII.—W.C., æt. 3½ years, suffering from croup; 2½ minims were given, and in fourteen minutes free emesis followed.

Case IX.—D.L., æt. 2½ years; gave 2 minims; a small portion oozed out from where the needle was inserted, and vomiting did not follow for twenty-eight minutes, which is the longest interval I have ever observed, probably owing to the smallness of the dose, which might have been from $^1/_{100}$ to $^1/_{130}$ of a grain of the alkaloid.

Case X.—Miss M., æt. 4 years; 4 minims were given, and followed by vomiting in eighteen minutes.

The average interval between the hypodermic injection and the emesis is 10.1 minutes. As a rule, the vomiting only occurs two or three times at short intervals. The depression is only what might be expected after an ordinary vomiting. I have observed no case approaching fatal or even serious collapse. Only two of the cases were adults, the others were very young children. Cases IV and V were my own children, and I have the greatest confidence in giving it hypodermically to any of my children who may require an emetic. Everyone must have observed how difficult it is to make an infant or any child under 4 years vomit by giving emetics by the mouth. I have been surprised that authors on childrens' diseases do not recommed apomorphine hypodermically. Dr. Angel Money's work on Treatment of Diseases in Children is very excellent, but I find no mention of apomorphine as an emetic. I believe there is no emetic "so safe, certain and quick" for children. In adults, ordinary emetics usually succeed; not so in children. The cases reported in which collapse occurred were adults. It may be that apomorphine may occasionally cause collapse—although I have not observed any case—in adults, yet be perfectly safe for children, similar to the action of chloroform in adults and in children. Apomorphine is the emetic par excellence for children when given hypodermically.—*Brit. Med. Jour.*

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## TREATMENT OF DYSMEMORRHEA.

BY A. F. WATKINS, M. D., POTOSI, MO.

Painful menstruation is supposed to arise from three main causes; neuralgia, congestion and mechanical stoppage to the outflow of the blood.

In neuralgic dysmenorrhea, hot baths, half hourly, two or three times per day, with rest, are very soothing to your patient, in a warm bed or sofa, and etherial draughts (such as 20 gts. of spiritus atheris compositus, with 20 of spirits of chloroform, in an ounce of camph. or julep) or sal volatile may be used; or sumbul, in doses of three grains, or hyoscyamus in doses of five grains of the solid extract, Indian hemp, or the inhalation of chloroform or ether, are rather heroic remedies. Morphine may be taken in half grain doses, either by the stomach, or better still, as a suppository. M. Bernutz, of Paris, praises the extract of hemloch in dysmenorrhea. The root freshly powdered may be given in four grains doses, or the succus conii may be used. Bromide potassium has been much praised by Raciborski in doses of 10 to 20 grains at bedtime, or repeated three or four times a day. Lupulin is often used in four grain doses three or four timesa day.

In cases of congestive dysmenorrhea the application of leeches to the cervix uteri is

often useful, four or five leeches put up to the cervix uteri by means of a glass speculum are often all that are required; or the womb may be scarified by a long knife, just as is done in ophthalmia neonatorum. Hot water bottles, those of galvanized India-rubber are the best quality, may be laid over the hypogastrium, and the bowels kept free by enemata, or doses of Epsom salts.

As to the rare cases of extremely small os uteri, these are usually accompanied by an undeveloped condition of the uterus. To assert, as Dr. Marion Sims does, that the treatment of the majority of uterine diseases should be surgical, seems to me to be absurd in the highest degree. According to that gentleman, who advises incision of the cervix more even than Dr. Simpson or others, this operation produces surprising and salutary effects in dysmenorrhea, which in his eye is always mechanical. Incision may give rise to fatal hemorrhage, according to Dr. Kidd, in the Dublin Obstetrical Society, 1886.

Dr.Gream, of London, says that the division of the cervix sometimes brings on either a consecutive relaxation, which is prejudicial to gestation, or a scar, whereas Barnes in cases of conical cervix, divides the external os uteri, and Greenhalgh and Routh say that in a great majority of cases the stricture is at the internal os uteri. In France and Germany there are but few who agree with the practice of Sims and Greenhalgh and Routh in this point. The womb may suffer terribly from these heroic practices, and abscesses in the pelvic cavity may arise from them according to West and others.

The introduction of the uterine sound, or of various sizes of sounds, may sometimes do much good in mechanical dysmenorrhea, and the use of tents of laminaria digitata is often indicated until the womb is large enough to let enter a sound or a No. 9 catheter. The hysterotomies of Simpson, Greenhalgh, or Mathiew, are only required in cases of cicatrix after laborious confinement.—*Med. Age*

Speech Without the Tongue.—Primary tubercular ulceration of the tongue is very liable to be mistaken for cancerous disease. Mr. Butlin states that all the primary tuberculous ulcers of the tongue, described and examined by Nedopil, had been cut out under the impression that they were cancerous. Dr. Wm. T. Bull has recently reported a case in which this mistake was, fortunately for the patient, made. Kocher's operation was performed, the muscles of the tongue being cut through on a level with the hyoid bone, and an enlarged lymphatic gland removed, together with submaxillary and lingual glands. The man made a very good recovery, and, three years later, came under observation again with a broken leg, but otherwise in good health; he was able to speak sufficiently clearly to enable him to pursue his daily avocations without attracting attention, and was, in fact, in hospital two days before it was discovered that he had no tongue; he stated positively that the sense of taste was as acute as it ever was. The floor of the mouth was covered with mucous membrane; in speaking, he had no difficulty with vowel sounds, but g, k, t, q, m, ch, x and th were imperfect. In 1873, the Hon. Edward Thisleton published a curious book, "The Tongue not Essential to Speech," in which he collected a number of cases in which speech was retained after complete as well as partial removal of the tongue. In one case, that of a railway-guard, in which the whole of the tongue was removed by Mr. Nunneley, of Leeds, in 1861, Professor Huxley, who carefully examined the man as to the impairment of speech, in 1862, reported that the only consonants which he was wholly unable to pronounce were t and d, but l, r, s, v, and z, as well as the final g, were imperfect; th was "very fair." In another case, operated on by Professor Syme, only d, j, g, and s were markedly imperfect. These results as to speech are remarkably good, but they might probably now be easily paralleled. The chief interest of Dr. Bull's case is the apparently complete freedom of the patient from any trace of tubercular disease three years after the operation. "By a radical op-

eration," writes Dr. Bull, "the man has been saved from a disease quite as destructive in its career as cancer." Mr. Butlin also, in the work already quoted, expressed the opinion that the manner of dealing with these cases "thus summarily was the best that could be devised."—Ed. *Brit. Med. Jour.*

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Gangrene of the Colon: Successful Resection.—In the report of the meeting of the Edinburgh Medico-Chirurgical Society, held on December 5th, reference was made to a case of cure, by resection of the intestine, of a fecal fistula which was the result of extensive gangrene of the transverse colon. The case, which was under the care of Mr. Cotterill, Assistant-Surgeon to the Edinburgh Royal Infirmary, has since been published. The patient was a very stont woman, eighteen stone in weight, and 38 years of age. She had been subject to umbilical hernia for seven years. When seen by Mr. Cotterill she was seven months pregnant. The rupture was a bright red and angry-looking prominence about fourteen inches in diameter. The patient vomited coffee-colored fluid mixed with blood. The sac was opened, and was found to contain a large coil of gangrenous transverse colon, much sloughy omentum, and free from feculent matter. The gangrene appeared to be due, not to strangulation, but to pressure of the structures in the sac, between the pregnant uterus below and a firm binder which had been worn above. Fifteen inches of colon were cut away, and the ends of the gut were stitched to the edges of the skin-wound. The patient gave birth to a child three days after the operation. For three months after convalescence the patient was troubled with prolapse of the intestine, with discharge of feces whenever she walked much about. She again put herself under Mr. Cotterill's care. He succeeded in keeping patent both sides of the intestinal tract, and then performed resection. The two cut ends of intestine were freed from adhesions, the upper being first ligatured to avoid the escape of feces. Traction was then made on the two ends until normal gut, covered with peritoneum, protruded sufficiently for resection. Instead of using a clamp, the operator passed a piece of thin india-rubber tubing through a small hole in the mesentery and round the gut, fixing it there with a pair of catch forceps. Four inches of the upper segment of the colon and three of the lower were then cut away, with portions of messentery. As the lower segment had been five months in abeyance, it was very narrow and hard to join on to the upper piece. By careful introduction of over a hundred stitches, the ends were brought satisfactorily together. Fine needles were used, round, not flattened. and threaded with the finest Chinese twisted silk, and the Czerny-Lembert suture was employed. The cut edges of the mesentery were sutured together, and the gut was returned into the abdomen. The large umbilical opening was brought together by deep silk stitches, and a pad and binder were applied. The operation took three hours. On the third day feces passed. The patient made a good recovery. No less than twenty-two inches of large intestine were removed in the course of the two operations.

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When to Prescribe Digitalis.—The *N. O. Med. and Surg. Jour.*, contains the following: Notwithstanding the increasing additions to the list of so-called cardiac medicaments digitalis still holds its position as the most certain and most widely used; but in order to derive all the good possible from it, it is necessary to understand clearly the indications, and not to give it indiscriminately, as is too often done. Mr. Huchard has set forth these indications very clearly in his recent work, "When and How Should Digitalis be Prescribed."

In order to understand clearly the indications and counter-indications, the valvular affections of the heart must be divided into four stages or periods. The first is the period of eusystole. During this time the lesion is compensated, and nothing should be done in the way of medication; all our efforts are to be confined to maintaining good hygiene. Digitalis is useless.

During the second period, that of hypersystole, the contractions are violent, and compensation is exaggerated. Hygiene still plays an important part, and the cardiac sedatives, aconite, arsenic and the bromides, are indicated; digitalis is injurious.

The situation is entirely different in the period of hyposystole, or temporary asystole. The cardiac muscle and vessels become asthenic. This is the stage of edemas, congestion of the viscera, dropsies; the heart beats softly and feebly, etc. Digitalis is now of the greatest service; it is here triumphant.

Finally, in the period of asystole or amyocardia the cardiac muscle is profoundly degenerated; there is paresis of the heart, the definitive cardioplegia of Gubler. Digitalis is still sometimes useful, but it may in time become inefficacious, and occasionally it is injurious. Caffein in large doses is here sometimes very valuable.

Huchard considers a maceration of the drug as the best form for administering it. He does not give the infusion, which is preferred by some physicians, for, when it is necessary to act quickly, we cannot wait for twelve hours, which time is required for macerating. This is the method for making the maceration:

℞ Leaves of digitalis, in powder.....25 to 50 centigrams.
Cold water.....300 grains.

Macerate for twelve hours, and filetr carefully, in order to avoid the retention of a certain amount of the powdered digitalis, which is capable of producing nausea and vomiting by its irritant action upon the mucous membrane of the stomach. The infusion may be sweetened with any agreeable syrup.

This maceration should be taken in five or six doses during the day, between meals; the digitalis should be prescribed in diminishing doses; thus, 40 centigrams the first day, 30 cgr. the second, 20 cgr. the third, etc. As a rule, the digitalis should be suspended after four or five days' use.—*Jour. de Medecine et Chirurgie Practiques.*

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A Remarkaale Legal Decision is Reported in the Daily Press From one of the Courts of Ohio:—In sustaining the demurer of the Repository Printing Company and ex-Judge Lahm in the damage suits brought against them for $40,000 by Paul Field and William Volkman, Common Pleas Judge Raley decided that "it is not libel for a newspaper to publish a man before the world as a bastard." In the article for which suit was brought the plaintiff was stamped as of illegitimate birth. Judge Raley held, as reported, that "libel was that which would bring one into ridicule, contempt, or hatred; that which would tend to degrade one against whom it was directed. A number of his honor's associates on the bench had beed torn out of wedlock, but they stood high in social and legal circle. If anything, their being of illegitimate birth elevated them.—*Boston Med. and Surg. Jour.*

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Very Hot Compresses in Surgical Practice.—Dr. I. I. Nasiloff, in the Vrach, gives an account of several cases of inflammation of the lymphatic glands which he treated with marked success by means of very hot compresses. The compress consist of a fourfold piece of linen, rather larger than the gland. It was dipped into water at a temperature nearly or quite equal to 212° F., wrung out, and applied quickly over the glands, its own temperature being then from 140° to 165° F. These applications were made morning and evening, the compress being allowed to remain on, covered over with cotton wool for about 15 minutes. The applications produced severe pain, but this did not last long, though sometimes not only redness, but a blister was caused. The treatment was continued for about a fortnight. It was found that it very soon began to promote absorption. It was noticed that the earlier the treatment was adopted the more effective it showed itself.—*Med. Age.*

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Ether-Drinking.—The consumption of ether for drinking purposes in portions of the North of Ireland is considerable, and all efforts to stop it appear unavailing. At a re-

cent meeting of the Cookstown Young Men's Christian and Literary Association the following resolution bearing on the subject was unanimously adopted: "That, having heard that the Government intended dealing with the question of the consumption of intoxicating liquors in Ireland during the coming session, and seeing that ether-drinking is so prevalent in the district about this town, and is of such injurious effect, we respectfully beg that in any Bill dealing with the liquor question in Ireland a clause may be inserted placing the houses in which ether is sold at present under similar restrictions as licensed spirit dealers' houses, or else restrict the sale of ether to houses licensed at present."—*Brit. Med. Jour.*

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Hemorrhage From Salicylic Acid.—As long ago as 1886 and 1387, Dr. Lauriston E. Shaw, Medical Register to Guy's Hospital, recorded cases to show the influence of the salicylate of sodium in the production of hemorrhage during the treatment epileptiform convulsions came on and lasted fifteen minutes, with arrest of respiration. Under artificial respiration the woman rallied momentarily, but the convulsions reappeared, and five minutes later death occurred. In the case of Montali 1½ grammes of the hydrochlorate of cocaine were given by the mouth, through mistake, to a patient suffering from phthisis. Fifteen minutes afterwards wandering delirium appeared, with ineffectual vomiting, marked fall of temperature, pale face, dilated pupils; cyanosis soon became apparant, and the pulse grew imperceptible. Unconsciousness developed, followed in a very short time by death. At the post-mortem, intense congestion of the brain and spinal cord with their membranes was found; the brain-surface being covered with a thin layer of blood and the subarachnoid space full of serum. On section of the brain-substance minute bleeding points everywhere appeared, given rise to confluent drops which spread over the whole cut surface. The heart was firmly contracted; the spleen, liver, stomach, and small intestine were excessively congested; the kidneys normal. Another fatal case of cocaine poisoning was recently the subject of inquest at the University College Hospital, London. A 20-grain solution in a glass of water had been ordered by the house curgeon without direction, but with the word "statim" written upon it, a customary indication that the solution is to be dispensed immediately; the apothecary, misunderstanding this, gave twenty grains of cocaine in solution in a measure-glass to the nurse as a draught for the patient. The initial symptoms are not known, for it was not until nearly an hour had elapsed that the nurse, hearing the patient making some unusual noise, had her attention drawn to him. At this time there was coma, out of which the patient could be partially aroused with convulsive movements of the limbs. At the autopsy the brain was found intensely congested, with serous effusion beneath the arachnoid. It was also noted that there was extensive tubercular disease of the kidney and bladder, as well as in the lungs.—*Ther. Gazette.*

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## BOOK REVIEWS.

Psychology of the Cell. The Psychic Life of Microorganisms. A Study in Experimental Psychology. By Alfred Binet. Translated from the French by Thomas MacCormack. 12mo., pp. 120, with illustrations. Chicago. The Open Court Publishing Co., 1889. Price 75 cts.

Psychology is even yet scarcely enough divorced from metaphysics to be entirely free from play upon words in definitions. But aside from all consideration of the points on which M. Binet fails to agree with his talented compatriot, Richet, in defining "irritability," "simple organisms," etc., this little book is worth reading as a comparative resume of progress in cellular physiology.

It appears to be certain that most cells are not the simple structures they were even very recently thought to be; and since in most of them there is evident differentiation as a specialization connected with division of labor

among their parts, it is not remarkable that their actions should also be somewhat complex. Perhaps it is too early to say that these are due to "life," a something distinct from chemical and physical laws, as this school of vitalists maintains. Perhaps it is also going a little too far to say with Moebins that every time an animal repeats the same action under influence of the same excitations, that fact proves that the animal is possessed of memory; or to assert that when a fern spermatozoid moves toward a supply of malic acid it is not wholly directed and incited by the irritating of diffusion currents which reach it from this center. But excluding bacteria and the few other micro-organisms in which a nucleus has not yet been demonstrated, the conclusion seemed to be in the main warranted, that every micro-organism has a psychic life, the complexity of which transcends the limits of cellular irritability, from the fact that every micro organism possesses a faculty of selection; it becomes its food, as it likewise chooses the animal with which it copulates.

Whether one agrees or not with all of the conclusions reached by the author, the book before us is sufficiently well written to be readable, and its perusal affords those interested in physiological questions much material for thought.

W. T.

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The Functions and Disorders of the Reproductive Organs in Childhood, Youth, Adult Age and Advanced Life, Considered in their Physiological, Social and Moral Relations. By William Acton, M.R.C.S., Late Surgeon to the Islington Dispensary, and formerly Externe to the Venereal Hospital, Paris, Fellow of the Royal Medical and Chirurgical Society, etc. Seventh edition. P. Blakiston, Son & Co., Philadelphia. 1888.

We are greatly indebted to Mr. Acton for this volume, the production of many years unwearying study and conscientious experimentation. Our profession would, doubtless, be better off if all mankind could be made familiar with its pages. The continent student will find reasons for continuing to live according to the dictates of virtue; the dissolute will find much positive information relating to self control. Consolation may be gleaned by the bachelor from the fact that not only are his sexual sufferings recognized, but that rules are given him for their mitigation.

The married man will find advice and guidance, in order to avoid excesses. Besides the individual benefit the general reader may derive, the universal diffusion of the knowledge contained in this book would, we think, tend to divert the weak and foolish persons from the advertising quacks.

In the light in which we view the subject we are forcibly persuaded to this belief, and that the regular conscientious physician can only hope to secure this clientele in that way, and thus expose the nefarious tricks of the scoundrels who are annually accumulating fortunes at the expense of their unwary victims.

The present edition treats of the different topics in a way that makes their reading entertainingly instructive to the general reader, as well as to the physician; while at the same time a clearness and compactness is exhibited in the discourse that will make the work popular.

The science of medicine is becoming more and more specialized, and the general practitioner is gradually retreating from the field of general practice. It is in this important department that the general practitioners are frequently called upon for advice, and therefore it is their duty to thoroughly familiarize themselves with this subject. Should they, however, in the course of time, interest themselves in other branches of practice without giving this subject the proper attention, though referring all diseases of the reproductive organs to specialists, they will subject themselves to criticisms that are rightfully heaped upon those who attempt to practice some specialty without a sufficient acquaintance with other departments of medicine. The sympathy that exists between the repro-

ductive and the other organs of the body is so great that some of the many diseases to which the human body is heir can only be readily diagnosed by the practitioner who has familiarized himself with the disorders peculiar to these organs.

The author has been scrupulously close in following out the details connected with the generative function from childhood up into advanced life, and has never lost sight of the effort to inculcate moral means as well as therapeutic in the cure of these functional ailments.

The book may not be wholly free from fault. As it is a book intended for the general reader, for instance, the punctilliously inclined ethical critic may say that the appendix, which embraces a number of the author's favorite prescriptions, ought not to be placed in the hands of everybody, but we contemplate the results of the author's arduous labors with much admiration, and recommend the book accordingly, as meeting a requisition of the times.

The publishers have as usual scored success in presenting this excellent book to the profession of this country.

G. W. B.

## BOOKS AND PAMPHLETS.

By writing to the addresses herein given copies of pamphlets and reprints can be obtained.

Are Immediate Amputations Justifiable? H. H. Middlekamp, Warrenton, Mo.

Yellow Fever—Absolute Protection Secured by Scientific Quarantine. By Wolfred Nelson, C.M., M.D., 32 Nassau Street, New York City.

The Biennial Report of the West Virginia State Board of Health. Dr. N. B. Baker, Sec'y, Martinsburg, W. Va.

Reports on the Physical Condition of the Police Force of St. Louis. By Geo. Homan, M. D., 7th and Olive Streets, St. Louis.

On Corpulence, Especially Its Treatment by Pure Milk Diet. By George H. Rohe, Baltimore, Md.

Prevention and Restriction of Small-pox. Document Issued by the Michigan State Board of Health.

Explanatory Notes on Dr. Keyes' Investigation of Electrolysis. By C. R. Dickson, 172 Johnson Street, Kingston, Ontario, Canada.

Fibro-Cystic Tumor of the Uterus; Unusual Treatment, Cure. By E. J. Beall, M. D., Fort Worth, Texas.

Are "Membranous Croup" and Diphtheria Identical? Yes. I. N. Love, M. D., 3601 Lindell Ave., St. Louis, Mo.

Some Points in the Management of Typhoid Fever. By I. N. Love, M. D., 3601 Lindell Ave., St. Louis.

A Chemical Study of Alcoholic Neuritis. By Frank R. Fry, A.M., M.D., 2614 Locust Street, St. Louis.

The Electrolytic Decomposition of Organic Tissues. By Geo. H. Rohe, Baltimore, Md.

Recent Advances in State Medicine. Henry B. Baker, Lansing, Mich.

Transactions of the American Dermatological Association. By G. H. Tilden, Sec'y, Boston, Mass.

Consequences of Acute Suppuration of the Middle Ear, With Special Reference to Opening the Mastoid. By A. R. Baker, M. D., Cleveland, Ohio.

Report on Medical Education, Medical Colleges and the Regulation of the Practice of Medicine in the United States and Canada by the Illinois State Board of Health, John H. Rauch, M.D., Sec'y, Springfield, Ill.

New Instruments for the Ear, Nose and Throat. Seth S. Bishop, 70 State Street, Chicago, Ill.

Diseases of the Skin Associated with Disorders of the Female Sexual Organs. George H. Rohe, M.D., Baltimore, Md.

Contributions to the History of Development of the Teeth. By Carl Heitzman, M.D., and C. F. W. Bodecker, D.D.S., M.D.S. Reprint from *Independent Practitioner.*

Laparotomy for Ascites. By Thomas A. Ashby, M.D., Baltimore, Md.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### ACUTE LOBAR PNEUMONIA.

BY WILLIAM PORTER, M.D., ST. LOUIS.

Read before the Medical Press Association, March 16, '89.

Although in the selection of the subject for the evening, the single word "pneumonia" was chosen, I will confine my remarks to that form, which is now denominated acute or primary lobar pneumonia.

The name indicates the difference existing between this and the catarrhal or lobular pneumonia so frequent in this climate, which is generally preceded by bronchitis, and may invade scattered lobules throughout one or both lungs.

Acute lobar pneumonia, on the other hand, is a primary disease confined as a rule to one part of one lung, characterized by a well marked inflammation of the vesicular structure, with exudation, in the course of which we have the three stages, congestion, red hepitization and gray hepitization.

To fully discuss the morbid anatomy of this disease, and the interesting pathological changes which are found in the different stages, would of itself require more than the whole time alloted to me; hence I may only speak of a few of the many phenomena which the anatomist and microscopist have found.

If then I ask your attention mainly to the etiology and treatment of pneumonia, rather than to such interesting topics as the symptomatology and diagnosis, it is not that these last are less important, but that by confining our thought to certain channels, we may find more of interest and profit, than we might if we traversed the whole field of the study of pneumonia.

An objection has been made by some writers and among them the late Prof. Alonzo Clark, to the term "croupous' as expressing the true conditions which are found in the pulmonary structures, in this disease. If by croupous we mean an inflammation resulting in an organized exudation or false membrane, there is no pathological change in pneumonia to which the name applies.

Briefly stated, the morbid changes in their order, are a distension of the capillaries around the air cells, and an exudation into the vesicles, although some maintain that the effusion is from the bronchial capillaries. Further along, the alveoli are found to be swollen and filled with a solid mesh of striated fibrin, containing blood corpuscles, and changed epithelia, which may contain one or multiple nuclei. The change to gray infiltration is gradual, becoming more marked as the fatty degeneration of the cell elements, and discoloration of blood corpuscles, take place. Pus cells are always found in the latter stage, and on section, light red or redish-gray purulent fluid exudes from the dirty gray surface. A return to normal conditions is possible through resolution. The cells in the air sacks become broken down and the alveolar contents are either expectorated or absorbed, while the capillaries are restored to their normal size and the alveolar epithelium is redeveloped.

In such cases recovery is complete; in others the pneumonic changes result in suppuration or abscess and rarely in gangrene. Infrequently the termination is a chronic fibroid phthisis.

One of the most interesting discussions in the study of pneumonia during the last decade has been upon the etiology, especially as to the questions of contagion and specific origin.

We all recognize that age, climate and general systemic condition may be predisposing agents. Loomis aptly says that "a glance at its etiology shows that it is a disease to which all things predispose that depress the general vitality, and in studying the predisposing causes of pneumonia, one is led more and more to observe that it is more liable to occur, the less resistence individuals are able to offer to some (as yet unknown) specific pneumonic influence."

Hirsch has shown that the amount of the mean fluctuation of the mortality from pneumonia, is in inverse ratio, to the density of population, and partly upon this fact rests the hypothesis that like many of our acute general diseases, pneumonia may be due to some specific infection. I trust we may be impressed to-night with the importance of the question—is there a specific cause of pneumonia?

Without being fully convinced, I shall for argument's sake present the affirmative, for not only does this position carry the onus probandi, but I believe the weight of evidence upon this side is increasing year by year.

There are many points of resemblance between pneumonia, and acute general diseases; there is the initiatory chill, a regular pyrexia, and a somewhat well defined course. It has been pointed out that the symptoms follow each other in regular order, that there is a peculiar countenance as in typhoid; that there are often herpetic eruptions, that there may be nephritis and that the cerebral symptoms are often like those which accompany the exanthems.

Much prominence has been given to a paper by Dr. Henry Baker, of Michigan, on "The Causation of Pneumonia" read not long since before the Brooklyn Pathological Society. He presented statistics of over 30,000 weekly reports of sickness and 150,000 observations of atmospheric temperature. He further cited, 114,000 deaths from pneumonia in London during 30 years and 50,000 reported during the last war in this country. He certainly showed that the sickness curve followed the temperature curve, not only in pneumonia, but in bronchitis. His conclusions however are faulty in this that he has not made, nor from the way in which statistis are taken, could he make a distinction between catarrhal pneumonia and the acute lobar pneumonia, which we are now considering.

The former, all admit, is to a large extent influenced by temperature changes as in bronchitis, upon which it so largely depends and so often complicates. On the other hand it has been clearly demonstrated that extremes of heat and cold are not favorable to the development of acute pneumonia. The majority of cases do not occur even in our coldest months but rather in the spring and autumn or during changeable winter weather, as is the case with many acute specific constitutional diseases.

That pneumonia is occasionally epidemic, we must admit. Two years ago Dr. R. J. Foulis reported 115 cases occurring within a radius of two miles from Wylain, England, in less than 60 days. The pneumonia was the acute lobular form of a decidedly infectious type, and the average crisis was the seventh day.

I might quote Dr. A. E. Bell's report to the Muskingiom Valley District Medical Society of 14 cases in four families within a mile, or the records of several well known epidemics in Germany, of the outbreaks in prisons and on board ship and in over crowded garrisons.

Tregnago, Verona, a town of about 2,000 inhabitants, strong, healthy people, previously free from epidemics, lies in a narrow winding valley. The outbreak of pneumonia was preceded by no peculiar meteorological conditions. The first cases occurred in a limited part of the village near a pond that was used for washing clothes, the water of which was covered with a scum, was greenish in color and had an unpleasant smell. In all about one hundred persons were attacked. The ratio of mortality was about thirty per cent. It attacked all ages alike, though in the matter of sex there were four males to one female.

In the *Berliner Klin. Wochenschr.*, 23, 1883,

Dr. Heinrich Schmidt, of Konigsbronn, Wurtemberg, reports an epidemic of croupous pneumonia, which occurred in Zeng, in April, May and July of that year. This village had 549 inhabitants who had been free from typhus and intermittent fevers, though pneumonia had been frequent among them. There were in all 19 cases, 16 of which happened between the 10th of May and the 19th of June. The disease did not differ much from the usual type; four cases were abortive, one was typhoid. The incubation period from five to eight days. The particular cause of the outbreak was not discovered.

So long ago as 1864 Dr. Russell reported to the U. S. Sanitary Commission, that at Benton in our own State "the surgeons on duty with the regiments in the barracks report that men occupying the bunks with those affected were very much more liable to be attacked than those more remote. Some of the more intelligent surgeons were led to believe that the disease was actually contagious."

The statement of Maragliono, published in my last report (Medical Review, Feb. 23, 1889), that pneumonia is an infectious disease due to micro-organisms, is from our present knowledge, an extreme position, yet the fact remains undisputed that there is a micro-coccus peculiar to pneumonia. Seven years ago Friedlander described micro-organisms, found in pneumonia, as being of almost constantly similar size and form, ellipsoidal, a micromillimeter in length and one-third less in breadth. Spherical organisms were also seen and these were found by Koch in the lungs and kidneys of a patient that had pneumonia following relapsing fever.

Salvioli and Zaslieu, the following year, found similar microbes in the sputa from 14 cases of pneumonia and during the succeeding years the contributions to medical literature have been frequent and confirmatory.

It is now claimed (see report of Wm. W. Welch in Dr. Van Bibber's paper, Am. Med. Association, 1888) that the micro-coccus Pasteuri,discovered by Sternberg in 1880, is the cause of pneumonia, rather than Friedlander's bacillus, although the latter has been found in lobular pneumonia, in meningitis and otitis interna. It is also called Frankel's pneumo-coccus, because this experimenter has carefully studied its relation to lobar pneumonia, and is considered by him the sole cause of the disease. The fact that it is sometimes found in the saliva of a healthy person does not in the minds of many argue against this proposition, for, say they, it is only when the etiological factors of exposure, bad hygienic surroundings, etc., are added that the micro-coccus Pasteuri is most likely to produce pneumonia.

The question may well be asked, as it is concerning the tubercle bacillus,is this pneumo-coccus the cause or the result of the disease?

So far an exact conclusion is impossible. [Weichselbaum (*Edinburg Med.Jour*,1887)believes that not only is the pneumo-coccus the cause of pneumonia, but following the experiments of others, maintains that when cultivated and introduced into healthy animals it will produce a typical pneumonia. M. Perret with M. Rodet (*Lyon Medical*,1887) believes that the same result may be obtained from the introduction of the germs of such specific diseases as typhoid fever, measles and scarlatina.

Following the suggestion that the pneumo-coccus may be the result of the pneumonia rather than the cause, let me quote a case reported (*Cent. fur. Chir.* 1887) by Dr. Koch, of a man who falling sustained a severe contusion of the chest. Two days later he was taken ill, went to the hospital and died in two hours after admission. The lungs swarmed with the bacilli of pneumonia. The patient was entirely free from the disease when injured.

The microscopical specimens to be presented this evening by Prof. Trelease are specially interesting in view of the researches to which I have alluded.

Though it is not yet certain that there is a specific cause for lobar pneumonia do not the citations which I have made and many others that will occur to you point that way? At least we may conclude with the editor of the

*Brit. Med. Jour.*, who after carefully reviewing the reports from various sources says, "pneumonia is liable to occur in series and to prevail at certain seasons; that it is sometimes so prevalent in localized areas as to justify the term epidemic, and that it appears to be occasionally contagious."

The symptomatology and diagnosis of pneumonia are fruitful themes for study and debate, but with your permission I will only say in passing that sufficient care has not been taken by many otherwise painstaking physicians to distinguish between the acute exudative or lobar pneumonia, and catarrhal or broncho-pneumonia. The differential diagnosis is seldom difficult, and the distinction should be made not only for the sake of accuracy but because the course and termination of the two diseases are often widely different.

Though we have divers opinions concerning the etiology of pneumonia, when we come to the treatment I believe there are certain views which we all hold in common.

When we remember the pathological phenomena in a typical case of acute pneumonia we have a rational indication as to treatment but in no other disease is it more necessary to individualize the case and to meet the indications as they arise. It is a disease which wages active warfare against the vitality. Fxceedingly fatal in the old, it is scarely less so in young children, in the very poor and in alcoholic patients. In such cases success or failure depends to the largest possible extent upon the amount of support given.

If the patient is seen early in the state of engorgment, when the disease is not fully developed, I believe that the strength may be conserved by the judicious use of opium, especially if there be much pain and restlessness. Formerly I was careful always to apply and keep applied a hot meal poultice, but am now content to use the oil-skin jacket, to the inside of which is stitched a layer of cotton. This not only protects the chest from sudden chill but encourages local diaphoresis. If, as sometimes happens, there be much local pain, I have found that a cloth wrung out of hot water and placed under the jacket, over the seat of the pain is often effective. Early in the attack, if the tongue be coated and the secretions sluggish, a well chosen dose of calomel and soda may do much for the patient, not only in accord with the good old fashioned idea of its being an antiphlogistic, but also because it empties the alimentary canal of accumulations which may add to the conditions of the disease during pyrexia. I have seen a drop of 2° F. follow the action of such a remedy.

During the first few days of the disease the high temperature may demand attention, but it is certainly bad practice to attempt reduction at the expense of vitality. In the past year antipyrine and antifebrine have been much lauded in such conditions. While these agents are doubtless useful, and I am sure that I have had the most fortunate result follow their administration, yet from their known depressing effect upon the heart they should be used with extreme caution. The same may be said, but even more emphatically of such agents as aconite and veratrium.

High authorities have advocated such medication, but if the modern estimate of pneumonia be correct, I cannot concede that the use of them is either indicated or safe.

The experiments of Winternitz, have shown that the application of cold by ice-packs or bags while possibly a temporary check to the capillary distention, is exactly the reverse if continued. Happily this treatment is almost abandaned in pneumonia.

Recently Libermeister has with much force advocated the use of the bath at about 68° F. whenever the patient's temperature reaches 104° F. The excitation attending this method is to be deprecated in pneumonia, where rest and quiet should be maintained if possible; but following the idea suggested by that great teacher I have repeatedly ordered sponging of the limbs with cool water with pleasing effect. This need not interfere with the oil skin jacket around the chest.

The practice of giving large doses of qui-

nine in high temperature in pneumonia is endorsed by Loomis, who gives as much as 20 to 40 grains within two hours, or even at a single dose. This is antagonized by many able practitioners and among them Dr. J. H. Ripley who detailed to the New York Academy of Medicine the result of a number of experiments made to test the efficacy of quinine as an antipyretic in pneumonia. The most he could effect from 20 to 40 grains of quinine prescribed daily to patients in the active stage of acute lobar pneumonia, was a temporary reduction of from 1 to 2 in about one-half the cases, and of less than one-half in the rest. I have found the systemic disturbance which often follows large doses of quinine to be more harmful than the condition for which the quinine was given.

It is the experience of most physicians that the most frequent form of death in pneumonia is from heart failure. The failure may be due to the obstruction to the action of the right side of the heart from the pulmonary inflammation, or to a failure of nerve supply to the heart from abnormal blood conditions, or both.

Having used all reasonable means to lessen the local pulmonary inflammation, the most careful attention should be given to quieting and sustaining the heart. A restless anxious mental state certainly increases the heart action and bears away the vital energy. A word of encouragement in such cases is often better than a dose of medicine, and the confident assurance that the patient is doing well helps to relieve the mind of the patient already burdened by the distressing physical complications.

As I have already suggested an opiate may here be used with advantage. Dr. Stewart Lockie advises an opiate, even if a small amount of albumen be present, provided there is no history of previous kidney disease. I prefer the Dovers powder, it being less likely to check the secretions than opium alone. Bartholow prescribes chloral, but in my hands it has not given the best results.

Sooner or later in the conduct of a case of pneumonia, a direct heart tonic is demanded. Whether from obstructions or loss of nerve power, the heart begins to weaken, the lungs become surcharged with blood, even beyond the boundaries of the pneumonic inflammation, oxygen is being denied entrance, carbonic acid accumulates, the patient grows drowsy, function fails and death calls a final halt. When the first evidence of heart failure is found, and it should always be expected, the remedy which to me seems indicated is digitalis.

There has been much debate upon this subject, and I am ready to admit that harm has been done by giving the drug before there is a demand for it. Sometimes the amount given is also greater than is necessary. For instance not long ago Dr. Antonia of Bucharest reported 143 cases of pneumonia treated by Prof. Petresou in which the dose of digitalis was two drachms of the leaves in infusion, every twenty-four hours. This is not my ideal of correct medication. Rather the digitalis should be given slowly, carefully, a gradual increase of the amount if needed, and when the desired action has been restored it is well to cease the administration until the symptoms again call for it.

In battling with all acute diseases, we should not exhaust our reserve. There is nothing I am more afraid of in the care of pneumonia than the depression which may follow over-stimulation. It is well to keep something in hand for an emergency, hence I am content with a moderate and possibly occasional use of digitalis under ordinary circumstances, being ready to increase the medication to the farthest limit, only if there is an imperative demand.

The same course should I believe be pursued in the administration of alcoholic stimulants in pneumonia. A good whisky is best of all and often is a substantial aid in bridging the patient over the crisis. In alcoholic patients where respiration and circulation are markedly depressed, hypodermic injections of strychnia are exceedingly valuable. [In the discussion following the paper, Dr. W. G. Moore insisted upon this, and his views were endorsed by Drs. Dalton and Lewis of the

City Hospital, who had followed this suggestion to very fortunate conclusions in repeated instances.]

Not the least important part of the treatment is proper nourishment. Milk or milk with seltzer water is nearly always grateful while in cases where there is great exhaustion, the milk should be partly pre-digested, for assimilation is not only important but is generally diminished. During the last two years I have placed much confidence in frequently repeated small doses of bovinine, although in some cases liquid peptonoids seem to answer better. The ordinary beef tea has proven to be a delusion except as a stimulant, and then it is a poor one. In pneumonia the nourishment should be given in small quantities frequently, for as in typhoid fever the conduct of the disease is often a trial of endurance.

While much is yet to be learned concerning the treatment of pneumonia, we have at least this in proof, that it is best at all times to sustain and frequently to stimulate the patient. Many complications may arise but this necessity is always present.

Let me add that sometimes during the course of the disease it is desirable to secure a free movement from the lower bowel and yet seems unwise to give a laxative by the mouth. Instead of the warm water enema, which is often burdensome to give and distressing to receive, a little pure glycerine may be injected, affording as we all know prompt and free relief.

I may not go farther into the details of treatment, but will leave it to you to fill in the outlines which I have given. If, as seems probable, pneumonia is due to a specific cause, we may some day be able to substitute for expectant medication, a specific remedy. So far we have failed to discover such an agent, and we can only treat the symptoms and anticipate important changes.

There is no need, however, that the physician should be discouraged by the result. It is true that lobar pneumonia is a grave disease, but it is most fatal in patients in whom there are predisposing causes, which in themselves are often beyond our reach. Old age, cardiac lesions, chronic alcoholism, Bright's disease, these and other asthenic conditions, may prevent a favorable termination. In moderately asthenic subjects, not debilitated by immediately acting or remote causes or complications, Dr. W. D. Schuyler (*N. Y. Med. Jour.*, Aug., 1888,) says that "without regard to the extent of lung involved, the age or the sex of the patient, or the degree of fever, the prognosis is to be regarded as favorable." There are many exceptions but I believe this may be regarded as a rule.

In all cases of pneumonia we may safely follow this main idea; if there is strength guard and sustain it; if strength be lacking, as far as possible supply it. Rest, nutrition and proper stimulation are the three links by which we may draw the patient back from the brink of disaster. Whatever other indications may be present, these certainly should not be neglected.

For discussion see p. 354.

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## CURRENT LITERATURE ON SURGERY

BY A. H. MEISENBACH, M.D.

I. Two Cases of Intussusception in Infants: Laparotomy in Both; Intestinal Exsection in One.

II. Suppurating Hydatids of Liver Incision and Drainage: Recovery.

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### Two Cases of Intussusception in Infants: Laparotomy in Both; Intestinal Exsection in One.

The following interesting cases are reported in the *Chicago Med. Jour. and Examiner*, Feb., 1889, by Dr. Albert E. Strong.

I was called at a late hour on the night of May 10, 1888, in consultation with Dr. E. E.

Holroyd, to a case of supposed intestinal obstruction.

The history, as given by Dr. Holroyd, was as follows: A. C. W., a large, well-developed nursing infant, æt. 5½ months, who was first seen on the forenoon of May 8. He had been ill several hours; vomiting and having stools at intervals of three or four hours. The first one was blood, and the subsequent ones bloody, sero-mucus and quite profuse. These had the peculiar odor of severe intestinal catarrh. There was a previous history of constipation; temperature 102°; pulse 130; respiration accelerated, but of natural rhythm. Abdomen normal, except a slight tenderness in the right inguinal region.

May 9, at 9 A. M., temperature normal; pulse 100, respiration quite natural; vomited less frequently and takes the breast which the day before he refused. Two passages from the bowels since first visit, of similar appearance, but less profuse. At 9 P. M., his condition was unchanged.

I was called in at 8 A. M., the following morning as fecal vomiting had occurred. I found the abdomen somewhat tense; detected a lump with tenderness in the right inguinal region. The father being out of town, I explained to the mother the probable condition of invagination, and administered two large enemata, but without benefit. An operation was then suggested, but I could not get the mother's consent. Temperature normal; pulse 140; respiration 40.

At 3 P. M. temperature 99°; pulse 150; respiration 40. Fecal vomiting continued. No more stools.

At 8 P. M., temperature 100°, pulse 150, respiration 40; vomiting; no stools. At midnight the father returned and consented to an operation.

An hour later when I saw the child, his condition was as follows: The general appearance indicated pain and approaching collapse. The face was slightly flushed, pupils widely dilated, eyelids twitching. The movements of the body were restless, the head being turned to and fro. The expression was peculiarly pinched in appearance. The abdomen was very much distended, tympanitic, and tender on pressure on the right side, where a small circumscribed tumor could be felt over the ileo-cecal region.

Under a few whiffs of chloroform the abdomen was opened in the median line, when a small quantity of serum escaped. There was no exudation of lymph, though the intestines and messentery were markedly congested. The small intestine was distended to its greatest limit with gas and fluid contents. An unusually long messentery was attached to the cecum, so that it was easily lifted out of the abdominal cavity. The last fourteen inches of the ileum had passed through the ileo-cecal valve, completely distending the cecum and the first inch or so of the colon. The tumor thus formed was about four inches in length and an inch and a half in diameter. The invaginated intestine was easily withdrawn through the ileo-cecal valve, when it was found that about nine inches from the large gut the ileum was again invaginated into itself for a distance of two or three inches. It was impossible to completely reduce this, since the parts were much swollen and agglutinated by inflammatory lymph. The lumen of the gut was completely occluded just above and below this tumor. The intestine was in a fairly healthy condition. The invaginated portion, about five inches in length, was removed, and the ends of the intestine united by Lembert suture. The mesentery, which had been cut off close to the bowel, was attached to the line of union of the intestine. The operation lasted an hour and a half, the child surviving it only a short time.

CASE II.—Eight years ago my own son, a nursing baby, æt. 12 months, while playing on the floor, a perfect picture of health and activity, suddenly cried out and began to strain as if at stool. The child had never been ill; his bowels had always acted regularly and naturally. This attack came on at 10 o'clock in the morning. It lasted but a moment, when he resumed his play. Similar attacks came on at intervals of about twenty minutes. When I saw him two hours later

he had just had his first bloody passage. During the afternoon he voided several small passages stained with blood and mucus. About 3 o'clock, Dr. G. W. Hutchins was called in, and under chloroform we administered a rectal injection of water, completely distending the colon throughout its entire length. The straining still continuing, Drs. Powell and Bogue were called at 8 P. M., chloroform and rectal injection being repeated. The child rested quietly till 12 o'clock midnight, when the straining began again. At 8 o'clock next morning Dr. Powell, assisted by Drs. Bogue, E. Ingals, Hutchins and the writer, opened the abdomen in the median line, and readily turned out the cecum. About six or eight inches of the ileum had passed through the ileo-cecal valve. The act of turning these parts out caused a backward peristaltic wave of the small intestines to take place and the invaginated portion was crowded out of the ileo-cecal opening; it was not pulled out. The parts were only slightly congested. The abdomen was quickly closed and dressed. A natural passage of the bowels took place eight hours afterward. For ten days every thing went well; the wound had healed. There was no peritonitis. He seemed to be convalescing. On the evening of the eleventh day slight twitchings of the muscles of the face were first observed. He died before morning in general convulsions.

In neither of the cases could any satisfactory causes of the invagination be given. Both children were remarkably healthy up to the very moment of the attack. In one there was a tendency to slight constipation. In the other, about two hours before the first symptom of trouble was present, the mother changed the diapers which had just been soiled by a perfectly free and normal motion. The child was always delighted to have his lower body free, and during this particular act of changing the tidy was possibly more hilarious than usual, kicking and crowing with the greatest glee. There was one peculiar motion he was accustomed to make on such occasions; it consisted in drawing his feet up by the side of his head and forcibly throwing his legs downward across his mother's knee, thus bringing considerable sudden strain upon his lower abdomen. No other possible cause could be assigned, and this does not seem to be adequate to produce the trouble.

In operating on both these infants it was particularly noticeable how easily the cecum was brought to the external surface through the median incision. It is well known that in the adult this cannot be easily done. Whether or not it is a normal condition for the cecum of a child to be so much more movable that in the adult, I am unable to say. The text-books are silent on this point.

As to the treatment of these cases all agree that drugs are powerless. Surgery to be effective must be resorted to early. On the very first appearance of the symptoms indicating intestinal obstruction, rectal insufflation of hydrogen gas or atmospheric air should be resorted to at once. This plan is much better and safer than to fill the colon with water. The lightness and distensibility of these substances are in themselves enough to recommend them. Besides, water cannot be forced beyond the ileo-cecal valve. On the other hand, Senn has demonstrated that the whole alimentary canal from anus to mouth can in nearly every case be easily and safely distended by rectal insufflation of hydrogen gas with a pressure varying from one-half to one and a half pounds. I am firmly convinced that had this plan been used in the second case here reported the intussusception would have been reduced without further operation.

If the apparatus for generating and using hydrogen gas is not at hand, air from the lungs may be blown into a rubber hot water bag or fountain syringe and so passed by a rectal tube into the anus. If, after a moderate trial of this method relief is not obtained, the knife must be resorted to at once.

Those of us who saw much of herniotomy for strangulation before the days of antiseptic surgery, have a very vivid recollection of the great mortality of the operation in comparison with its great success at the present

time. The difference depends not so much upon modern technique as upon operating early before local changes have taken place in the constricted part. So in intestinal obstruction delay is dangerous. Do not wait for stercoracious vomiting, or to feel a lump in the iliac region. Open the abdomen in the median line, and do what you find there is to be done.

While I recommended in these cases rectal insufflation of hydrogen gas or air in preference to filling the gut with water, we must remember that not in all cases of perfectly pervious intestine will air distend the entire alimentary tract. I recently made laparotomy for gunshot wound of the abdominal cavity where before and after the incision we were unable to distend the bowel with air bebeyond the ileo cecal valve.

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### Suppurating Hydatids of Liver: Incision and Drainage: Recovery.

In the *Brit. Med. Jour.* Oct. 13, 1888, Wm. S.Paget reports the following case of hydatids of the liver.

W. P., a young man, æt. 18 years, a grocer, resident in the Isle of Man, began to be unwell about the end of March, complaining of shivering, sickness, feverishness, with pain in the right side, no cough, but considerable dyspnea. He was seen by a medical man and pronounced to be suffering from indigestion and billiousness. After being off work a fortnight he made an attempt to resume it, but could do very little, and finally gave np altogether, and during the next two weeks prior to his leaving the Isle of Man, felt very ill indeed, suffering from frequent shiverings, perspirations, pain in the right side and dyspnea. He arrived here (where his parents reside) on May 8, about six weeks from the commencement of the illness, according to his own calculation. He walked down to my house, a quarter of a mile, the next morning but was much exhausted. There was considerable emaciation; respiration 36, and very labored; pulse 124; temperature 101°. No signs of any pulmonary mischief, but bulging over the hepatic region most prominent just below the ribs to the right of the ensiform cartilage. Dulness upward to the third rib on right side, and extending across to left side at the same level, and merging in the cardiac dulness. The apex of the heart was displaced two inches directly outside the nipple. The dulness below was within a couple of inches of the umbillicus; behind it reached the middle of scapula on right side. A puncture with a fine aspirating needle, at the most prominent point revealed the presence of pus, about half an ounce of which was drawn off, of greenish tint and somewhat sickly odor. Thus, the diagnosis of abscess was established; but the origin of it only conjectural, suppurating hydatids, however, being suspected as there was no history of anything else that could have caused an abscess in the liver.

May 9, the following day, I aspirated with a large trocar and cannula, and removed nearly three pints of pus. The tubes then became blocked with gelatinous pieces of membrane,and no more pus could be evacuated. The character of the contents of the abscess made the diagnosis tolerably certain, and it was placed beyond doubt by the discovery, upon microscopical examination, of one or two hooklets. Respiration was much relieved by the operation, and the temperature fell to normal for a couple of days.

On May 14, however, phlebitis commenced in the left leg, and there was much tenderness and swelling of the whole limb, with a temperature of 102.5°. There was also the physical signs of refilling of the abscess.

May 17, eighth day after aspirating, being kindly assisted by Drs. Mathews and Tooker, I made an incision over the most prominent bart of the swelling, just below the ribs, an inch external to the tip or the ensiform cartilage; there were no adhesions whatever between the liver and the abdominal parietes, so several silk sutures were introduced to unite the two, antiseptic dressings used, and tolerably firm pressure applied to keep the parts as quiet as possible.

During the succeeding four days there was

no change of consequence, the wound remained perfectly healthy, the phlebitis in the left leg gradually improved; temperature 100° to 101°.

May 22. Phlebitis occurred in the right leg, but not to so marked an extent as in the left.

May 23. The sixth day after the preliminary operation, firm adhesions having formed, the abscess was opened and a large drainage tube inserted; about fifty ounces of pus were evacuated, and numerous pieces of jelly-like membrane; the sac was well syringed out with weak iodine, an antiseptic dressing employed. Great relief followed the operation, the temperature becoming normal the second day afterward; for three days the discharge was most abundant, consisting of pus and membrane; the side was strapped firmly to favor contraction of the cavity.

May 27. Great discharge of bile, together with broken down orange colored cysts; scarcely any pus. This continued during four days, there being as much as twenty to thirty ounces of pure bile discharged per day. During this period there was complete absence of bile from the intestines, the motions being perfectly white.

May 31. Bile appeared again in the stools; on previous evening there had been given a dose of gray powder and rhubarb.

During the following week the discharge consisted of mixed bile and pus, the quantity daily diminishing, so that on June 8, the cavity only held six ounces.

June 14. A semi-solid mass of cyst came away suddenly, filling half a teacup, brilliant orange in color; this was the last of the cysts.

July (early). The cavity only held half an ounce. A month later it was converted into a sinus three or four inches in length; and the patient who, three months before looked at death's door, now presented the appearance of robust health.

Remarks.—The case illustrates the success of the plan, now I believe generally adopted, of performing at once these operations on the liver. In this instance, though the tumor was moderately prominent, and an aspirating needle had been twice introduced, an incision carried through the same point revealvd no adhesions. In the absence of any urgent symptoms it would seem wise to allow six or seven days to elapse between the operations, in order that firm adhesions may form. The chief points in the after treatment are, doubtless, efficient drainage and thorough cleansing of the cavity with antiseptics, together with firm strapping of the side to promote contraction. A curious feature of this case was the passage of the whole of the bile externally during four days, there being coincidently an entire absence of pus. Subsequent to this the quantities of bile and pus were in inverse ratio, thus showing the powerfully antiseptic qualities of the former.

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## Treatment of Empyema.

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In a paper read before the Ontario Medical Association, June, 1888 (*Can. Lancet*), Dr. T. K. Holmes makes the following observations:

It is impossible to over-estimate the importance of strict antisepsis in the performance of aspiration of the serous effusion from pleurisy. The instrument should be not only clean and aseptic, but the skin when the puncture is made should be well washed with sublimate solution.

In adults, all will agree that free drainage should be secured until the cavity is closed, the only question being the manner of doing this. Without reviewing the relative merits of free incision, resection of one or more ribs, or a double opening, I would only say that in practice I have generally made a single opening with a large trocar, and have introduced a drainage tube through the canula, which is then withdrawn, leaving the rubber tube in the wound and securing it there by a thread passed transversely through it, and kept in close contact with the skin by strips of adhesive plaster. I have not seen a case where I thought a double opening was necessary, or would have given a better result, and unless a clear indication for making it be present, I

think it better and safer to make only one. The admission of air into the cavity may have disadvantages, although I am not convinced that it has. On the other hand, its presence there prevents the too rapid expansion of the lung, and the injury that might result from the sudden rupture of adhesions.

Should the suppurating cavity be washed out? This is a question of some importance, and the answer must depend upon the circumstances in individual cases. There is, undoubtedly, some risk in washing out, for cases of sudden death, the result of injecting fluid into the cavity, have been reported. The fatal result does not depend upon the kind of fluid used, for the use of pure water has caused death. The explanation of this is not easy, but it may be that the untoward event is due to inhibition of the heart through reflex action, caused by the presence of the suddenly injected fluid. When the pus is healthy washing out is unnecessary, and if the patient's condition be good, as indicated by the temperature, pulse, etc., even though the pus be not healthy, I believe it advisable not to irrigate. If, however, free drainage be maintained without amelioration of symptoms, and the pus be offensive, I believe the use of a disinfectant wash necessary; and if it be of the temperature of the body and injected very slowly, the risk will be very slight. The quantity injected will vary with the size of the cavity.

Aspiration will sometimes cure empyema in children, but in consideration of its frequent failure and the risk that such delay implies, it is doubtful if it would not be better practice in most cases to perform paracentesis instead, especially as anesthesia is required for either. It believe it would. Dr. Wilks has reported five deaths in children, occurring in one of the London hospitals during a single year, from bursting of pus into the lung, and he advises tapping and free drainage if one aspiration fail.

## A Case of Excision of the Astragalus.

In the *Canada Lancet*, Dr. W. H. Dukeman gives the following:

On September 30, 1881, Mr. C. R., æt. 28 years, a healthy muscular man, weighing about one hundred and eighty pounds, while engaged in building a very large oil tank (such as is used by the Standard Oil Company for storing crude petroleum), by a misstep fell to the ground, a distance of about thirty feet.

He fell in such a way, he said, that when he struck the uneven ground his whole weight was brought to bear on his right heel in such a manner as to turn his foot inward and forward. He was immediately taken to his boarding-house, where I saw him about an hour after the accident.

On examination, I discovered a fracture of the fibula about three inches above the malleolus, a partial dislocation of the tibia forward, and a displacement of the astragalus forward and outward, almost protruding through the skin. The patient was at once anesthetized, and the tibia and fractured fibula were reduced with but little difficulty; but, after the most careful and repeated efforts, I found it impossible to replace or even move the displaced astragalus; consequently I was obliged to let it remain as it was. The fractured fibula in the course of time united nicely. By this time the astragalus caused ulceration of the tissues on the dorsum of the foot, and necrosis of the presenting portion of the bone had taken place. This was about two months after the accident, and I found it advisable and necessary for his recovery that an exsection be made and the bone removed. The patient was anesthetized and an incision of the soft parts over the bone was made in a line lengthwise over the displaced bone. The bone was displaced to such an extent that its posterior surface pointed outward and the entire bone was almost completely turned one-half upon its axis, the scaphoidal extremity, which was necrosed, pointing upward. The bone was removed without any difficulty and with but very little hemorrhage. Further examination revealed that the articulating surfaces of the os calcis and scaphoid were injured. Small spicula, together with the roughened surfaces, were snipped off

the bone forceps, and, after being carefully smoothed and the cavity carefully and thoroughly cleansed, the wound was closed. A drainage-tube was inserted and antiseptic dressings were applied. The foot and leg were then placed in a wire splint with a foot-board firmly secured at right angles to give support to the foot, and firmly secured by bandages to keep it at perfect rest. The leg was then suspended by means of a rope and pulley to the ceiling. This allowed the patient to move, and at the same time kept the foot at perfect rest. The patient made a good recovery, being confined to his bed about six weeks, and in the course of four months he was able to use his foot with the aid of a crutch.

It is now over three years since the operation was performed. I saw the patient a short time ago at work for a grocer in Jamestown as a delivery man. His foot is a little shortened, but he has almost perfect use, with no impediment, of the ankle-joint.

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### One Thousand Consecutive Cases of Abdominal Section.

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Mr. Lawson Tait (*Brit. Med. Jour.*) reports a second series of one thousand consecutive cases of abdominal section, showing a diminution of the mortality from 9.2 in the first series to 5. 3 in the second. He predicts that "this operation will revolutionize the obstetric art, and that in two years we shall hear no more of craniotomy (save for hydrocephalus) and evisceration, for this new method will save more lives than these proceedings do, and it is far easier of performance. It is the easiest operation in abdominal surgery, and every country practitioner ought to be able and always prepared to perform it."

He describes the operation as follows: My method of operating is to make an incision through the middle line large enough to admit my hand, and then I pass a piece of rubber drainage-tube (without any holes in it) as a loop over the fundus uteri, and bring it down so as to encircle the cervix, taking care that it does not include a loop of intestine. I then make a single hitch and draw it tight round the cervix, so as to completely stop the circulation. I give the ends of the tube to an assistant, who keeps them well on the strain, so as to prevent the loose knot from slipping, the reason of this being that should there be any bleeding and any necessity for further constriction, I could secure this in a moment, without undoing any knot, and the simplicity of this method greatly commends it. I then make a small opening in the uterus, and enlarge it by tearing with my two forefingers, seize the child by a foot and remove it. I then remove the placenta, and by that time the uterus has completely contracted, and is easily drawn through the wound in the abdominal wall. The constricting tube will now probably require to be tightened, and the second hitch of the knot may be put on at the same time, and the work is practically done. Stuff a few sponges in the wound to keep the cavity clear of blood, and pass the knitting-needles through the flattened tube and through the cervix, and in this simple way a clamp of the most efficient kind is at once made. The uterus is removed about three-quarters of an inch above the rubber tube. The usual stitches are put in, the wound closed round the stump, which, of course, is brought to the lower part of the opening, and then the stump is dressed with perchloride of iron in the usual way.—*International Journal of Surgery.*

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### Perforation of Stomach by a Wooden Spoon; Gastrotomy; Recovery.

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Dr. Le Dentu reported at a meeting of the Paris Academy of Medicine, Jan. 8, 1889, the case of a man, aged twenty-one, who had swallowed a wooden spoon. Twelve hours later he complained of severe pains, and a feeling of something having given way in the region of the stomach. The foreign body could be felt two fingers' breadth above the navel, and to the left of the linea alba. On the following day, M. Le Dentu performed gastrotomy, but found nothing in the stomach. Examination of the abdomen revealed

the spoon in the pelvis, the one end resting on the bladder and the other behind the linea alba, above the navel. The operator made an incision in the median line of the abdomen, and extracted the foreign body. It was surrounded by a loop of intestine, and when drawn out a small quantity of sero-sanguineous, somewhat fetid fluid flowed from the wound. The peritoneum was somewhat vascular, but not covered with exudation. The mesentery between the umbilicus and stomach was thickened, had a dirty, grayish color, and was adherent to the anterior abdominal wall. Careful examination of the stomach and small intestine failed to disclose any perforation, so that it must be assumed that it had closed immediately. The incision in the stomach was united by fourteen sutures, the stomach replaced, and the abdominal wound closed by deep sutures of silver wire, and superficial sutures of silk worm gut. Recovery was rapid and complete.—*Semaine Medicale.*

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MENSTRUATION A CONTRAINDICATION FOR THE ADMINISTRATION OF ANTIPYRIN.—Dr. H. Huchard reports in the *Revue Generale de Clinique et de Therapeutique*, Jan. 24, 1889, the following case: A few months ago he administered to a woman suffering from severe dysmenorrhea, 15 grains of antipyrin. After a short time the menstrual flow ceased the patient being taken with a severe chill, with chattering of her teeth, and the extremities and face becoming cold and cyanotic with repeated fainting and syncope. Soon the face became red and flushed, the pulse small and soft, the patient complained of severe headache. She recovered. The author observed several other cases with less severe symptoms and has since then not administered antipyrin during the first two or three days of the catamenial epoch.—*Med. Age.*

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Dr. Baumgartner reports (*Brit. Med. Jour.*) the case of a girl eight years of age, who was the subject of imperforate anus. She had always passed her feces by way of a recto-vaginal fistula through the vagina. The natural passage was successfully established.


# WEEKLY MEDICAL REVIEW,

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## IS SYPHILIS CURABLE?

This question has been the subject of more than usual interest recently, and the profession both in this country and in Europe is far from being unamimous in the opinions held in regard to it. Some go so far as to believe the disease to be self-limited, while others say "syphilis once, syphilis always." No one will deny the fact that the disease may be inherited, and yet perfectly healthy children have been born of syphilitic parents. The strongest argument that has been presented in favor of the curability of the disease is based upon Dr. Althaus' assertion that "it is now generally accepted, whatever views may be entertained by different observers about the nature of contagium, whoever has syphilis cannot acquire it. A single well observed case of reinfection in the same individual, clearly shows that syphilis is at least occasionally cured."

A case of this kind occurred in the practice of Dr. Orendorf, a genito-urinary surgeon, of Louisville, Ky. The patient was a young man about 21 years of age. He contracted a hard chancre which was followed by enlargement of the lymphatic glands, syphilitic rash and sore throat. The sulci in both groins were obliterated by enlarged glands and infiltration of tissue which broke down in a number of places, becoming "honeycombed," discharging an ichorous material. These symptoms show clearly that the syphilitic poison had permeated his system thoroughly.

Under Dr. Orendorf's treatment, the pri-

mary symptoms passed away and, contrary to advice, the patient concluded that he was well, and so discontinued treatment. Later he returned with the other symptoms mentioned. Under antisyphilitic treatment for twelve months all signs of the disease disappeared and he regained perfect health. Some months after being discharged as well, the patient returned with another hard chancre on his penis, the characteristic syphilitic rash on his body, and enlarged lymphatics.

I believe the disease is curable, at least when taken in its earlier stages. Of one thing we are sure; the symptoms of no disease yield more certainly to treatment than do those of syphilis to mercury and the iodides.

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### Ossification of the Choroid.

In the *Brit. Med. Jour.* of March 16, Mr. E. F. D. Brockman reports a case in which the vascular or choroidal coat of the eyeball had been changed into bone. Such cases are comparatively rare, though calcification or chalky degeneration of the choroid is quite common. Both are the result of active inflammation of the eye, and nearly all the globes in which they are found are shrunken. An eyeball, the vision of which has been destroyed by disease, may remain quiet for many years and then suddenly become irritable, and in a short time excite sympathetic inflammation in the fellow eye. If the shrunken ball be enucleated and dissected, some foreign substance, such as bony or chalky deposit or a piece of steel or stone will most likely be found. A patient who has such an eye should consult an oculist immediately if the fellow eye shows symptoms of approaching danger. Lachrymation, photophobia, dimness of vision on slight use of the eyes and slight ciliary injection are the premonitory signs.

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### Importing Doctors.

National pride is commendable, but national egoism is pitiable. The *International Jour. of Surg.* calls attention to the conduct of the Board of Managers of a New York hospital, which seems to have been actuated by this kind of egoism. The journal says:

"The German Hospital of the City of New York is doubtless a meritorious institution. Although its title suggests the exclusiveness of the most Chauvinistic of modern nations, it is incorporated under American, not German, law, and is supported by American, not German, citizens. At this very moment it is making an appeal to the general public for assistance. It is, therefore an American institution.

But it is an American hospital of a peculiar kind. The English language is not spoken within its walls, and its personelle is chosen exclusively from among foreigners. It even seems quite impossible for this transplanted institution to find a house physician among the thousands of recent home graduates in medicine capable of taking care of so tender an exotic." Following this is a quotation from a German periodical of an advertisement for a house surgeon to take charge of the above named hospital at a salary of, from $1000 to $1500 a year. The *Internat. Jour.* says that many of the numerous graduates of the colleges in New York City who apply for hospital positions are German-Americans who have been accustomed to speak the German tongue from their childhood, and from this it infers that the directors of the German Hospital do not believe that a competent house-surgeon can be found this side of Germany. May it not be that they have received a somewhat exagerated impression of the bright prospects that lie before the American practitioner, and have taken this step with a view to lessening the competition in the Fatherland? Many of our most loyal citizens are German-Americans.

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### The Etiology of Diphtheria.

Roux and Yersin (Contribution a l' etude de la diphtherie.—Annales de l'Institut Pasteur, 1888, p. 629) have obtained certain results in this field that have been badly man-

gled and distorted in most of the reports that have come to us. What they have actually accomplished is the following:

1. Isolation of Loeffler's diphtheria bacillus from all of the 15 cases investigated.

2. Infection of animals from pure cultures, either by intravenous injection or by transfer to excoriated mucous membranes—in the latter case with the formation of a false membrane.

3. Demonstration of the almost constant limitation of the bacillus to the diseased mucous membrane or the point of inoculation.

4. Isolation of a toxic product of the bacteria in cultures.

5. Indication of a marked delay in the manifestation of some of the toxic effects of this ferment.

The cultures were obtained by transferring a fragment of membrane to a tube of solid blood serum, from which needle scratches were then made in other tubes, subsequently placed in the brood-oven at 33° C.

The practical conclusions to be drawn from their work are that the Loeffler bacillus is the true cause of the disease; that it can usually obtain a foothold only on the abraded or inflamed mucous surfaces; and that topical treatment by gargles of carbolic acid or other admissible disinfectants is, therefore, the most rational means of preventing infection or of destroying the germs when they have once effected a foothold, before their products have been formed and absorbed in sufficient quantity to produce the dreaded toxic effects.

W. T.

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## Specialists and Medical Societies.

Under this caption, in a recent number of the Review, our editor quoted from *Progress* to this effect: "That the better class of specialists are largely in the majority of working members of all regularly organized medical societies." It has been the custom of specialists in the last decade to claim all progress in medical science, and as it was humorously said by a member of the St. Louis profession, "they have left nothing for the general practitioner save diseases of the umbilicus." The author proved the above assertion by this axiomatic argument: "That all practitioners in the ranks of the regular medical profession are specialists. DaCosta is as much a specialist as Kelsey, Pancoast is as much a specialist as Goodell," etc. Viewed from this standpoint the case stands thus. All regular practitioners are specialists, therefore all specialists are regular practitioners. From our observation the latter proposition is much nearer the truth than the former, for the wide scope of some so-called specialists reminds us of that species denominated universal specialist, of which Mr. Jonathan Hutchinson gave so concise a definition when he said, he was a specialist on the skin and all it contained."

Certain it is if DaCosta and Loomis are specialists as claimed, the profession generally do not know it. That they have fields of special excellence is true, but whoever heard of their claiming to be specialists in the modern sense of the word.

The article above referred to is opposed to division in the medical profession, and to exclusive specialism in medical education.

The question arises as to what is a specialist? and from the best authority we learn it is one who confines himself to the trea ment of some organ or set of organs, and none others. If this be applied to those claiming to be specialists how many will be found fitting the measure? We do not deny the right of any man to set himself up as a specialist even if he has no fitness whatever for the special work he proposes to do; this is a matter for the public to determine for themselves, but we do say that the general workers in the medical profession are continually stultifying themselves by sending patients to men no more fitted by any special study to treat those cases than themselves. In the first place it is an injustice to the patient as well as to the physician himself. He robs himself by causing his patient to pay special prices for service that is in no way better than he was reciving at his hands, and that too to a man who is not confined to any limit smaller

than his own possibilities in every direction. There are two kinds of specialists to be found in almost every community, nominal and real —about 99 per cent of the former to one per cent of the latter. There are also two modes of becoming specialists. One is where a young man studies medicine two or three years, graduates, goes off to some city, spends a few weeks or months and returns—a specialist, with all the eclat attaching thereto. The other has been a general practitioner for a number of years, gets dissatisfied with night work and other arduous features of his calling, goes off on a summer trip and while away conceives the idea of being a specialist, and returns to his constituents as such and poses with all the ponderosity of a man of special knowledge.

These facts are not overdrawn, and it is just such exhibitions that are so rapidly diminishing the influence of this class of practitioners, and at the same time calling down upon their heads the just criticisms of their professional brethren.

The most potent evil to the medical profession growing out of this state of affairs is the fact of each of these gentlemen having to do a great deal ("the majority") of work in the journals and medical societies to make his specialty known, and the character of his "work" consists in expounding doctrines of th e olden times clothed with his special ideas, whic h serve only a selfish end, and in no way bene fit the profession at large. To the man who by long and patient work has fitted himself for the treatment of certain diseases, who se attitude toward his fellow workers is e thical and correct, we say welcome! But it is high time that we ce ase to mistake the spurious for the genuine article, and ther eby protect our patients and ourselves. W. M.

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## National Association of Railway Surgeons.

The annual meeting of the National Association of Railway Surgeons will be held at St. Louis, Mo., on Thursday and Friday, May 2 and 3, 1889.

The prospects are that this will be one among the largest gatherings of medical men ever assembled in this country.

Dr. W. B. Outten, of St. Louis, is the chairman of the Committee of Arrangements, and everything will be complete for the accommodation of the surgeons.

Any information desired can be had by addressing the secretary, C. B. Stemen, M. D., Fort Wayne, Ind.

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## The Coming Meeting of the Missouri State Medical Association.

The next meeting of the Missouri State Medical Association is to be held at Springfield, May 21, 22, 23, 1889.

We learn that the president, Dr. A. W. McAlester, has his committees all well organized and at work, and that everything bids fair for a large and interesting meeting.

The meeting last year at Kansas City was unprecedentedly large. But even this was much smaller than the similar meetings of our immediately neighboring states, Illinois, Indiana and Iowa.

We have heard some few question the advantage of these large state-gatherings of the medical profession. That they are, or at least can be made to be, of great benefit to the profession and community needs hardly to be argued with the majority of us. There is no other means of bringing the members of the profession into sufficient harmony and sympathy with one another, so that they may take the most intelligent and advantageous cagnizance of such matters as demand their co-operative attention.

This is an age of conventions. All professions, crafts and creeds have their annual, or even more frequent, large gatherings. These large conventions reflect the spirit of the times. They indicate the advancing rate of progress that our race is making toward the time when a greater community of interest will be apparent to all men, with its fortunate consequences. The medical profession cannot afford to be behind in the march. It has a legitimate and important part to enact in all the progress of mankind.

Good doctors enjoy the company of no one so much as that of other good doctors. There is no one whose esteem they value so much. There is no one from whom they can learn so much. In short, there is no place where they can receive so much pleasure and benefit in a short space of time as at a good medical convention. We should all attend them and help to make them good. If we are debating about attending the approaching meeting of the State Association, we should allow the above and similar considerations to dominate our minds.

## NEWS ITEMS.

A case is reported in the *Loudon Lancet* in which a diagnosis of bronchial catarrh with asthma was made, but the symptoms were abruptly terminated by the patient coughing up a small piece of bone which had passed into her trachea about eight months previously.

Dr. Theobold, of Baltimore, prefers a solution of boracic acid in acute suppuration of the middle ear with perforation of the drum membrane. He directs his patients to apply the solution with a syringe. In long standing cases of suppuration he prefers the dry boracic acid.

At present there is quite a diversity of opinion as to the value of corrosive sublimate in solution as an application in cases of suppuration of the middle ear. My experience has been that it is far inferior to the boracic acid treatment.

Peroxide of hydrogen answers an admirable purpose in cleansing the middle ear of pus. It should be slightly warmed just before being put into the ear. The patient should be instructed to hold his head on one side to prevent the liquid from running out, and holding the nose, to forcibly inflate the ears with his breath.

The chief Sanitary Inspector of Philadelphia, (*Med. Times*) calls the attention of the medical profession of that city, to the fact that hospital rags and bandages after use find their way to dealers in rags. The danger of transmitting disease in this way is apparent to all.

Though specialism continues to develop in the professions and in mechanics, it seems to have reached its acme in certain branches of commerce, and houses that once handled one or two classes of goods now essay to supply nearly every temporal want of man. We learn from the *Medical Press* that some of the leading dry-goods merchants of Buffalo, N. Y., have been underselling the druggists in articles that strictly belong to the drug trade.

Louisville, Ky., is doing her part this year in placing medical aid at the disposal of suffering humanity. Already the degree of M. D. has been conferred upon two hundred and thirty-two graduates and two other classes will be graduated in June next.

Dr. Faulkner writes *The Epitome* of a case in which a woman eighty years of age, while violently vomiting felt her "right eye-ball pop out and hang down on her cheek." It was replaced at once by her daughters who were present. The sight was blurred and imperfect, but it gradually improved till the death of the patient eight or ten days later.

The eye-ball may be dislocated from its socket and replaced without destroying vision and this fact has given rise to the absurd idea among the laity that surgeons can separate an eye-ball from its attachments and replace it "just as good as ever."

The following is the manner in which the Boston Board of Health proceeds (*Boston Med. and Surg. Journal*) in cases of diphtheria:

"We require notice from physicians in each separate case. This is generally given as soon as the physician is able to make the diagnosis. A circular, of which a copy is appended, is immediately sent to the family, giving general information, and the school officers notified on the same day.

A physician is sent to see if the patient can go to the hospital and to urge or compel the use of all prudent means to prevent the spread of the disease, recognizing it as a purely contagious disease.

Another officer is sent to examine the house and premises to see if any local condition is operating against the case.

On the recovery, removal, or death of the patient the apartments are cleansed by the use of sulphurous acid gas, and the sponging of the walls, floors, carpets, and woodwork with 1-500 corrosive sublimate and other measures noted in the circular."

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The *Medical Record* contains a note from the *Archives de Medicine et de Pharmacie Militaires*, in which Dr. C. Andre reports a case of a cavalryman who was kicked on the abdomen by a horse. Examination of the abdomen showed no evidences of a contusion, but signs of peritonitis set in and the man died the next day. Post-mortem examination revealed a rupture of the small intestine and extravation of feces.

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Dr. Oliver Wendell Holmes advises young men not to smoke. "It is liable to injure the sight," he says, "to render the nerves unsteady, to enfeeble the will, and to enslave the nature to an imperious habit likely to stand in the way of a duty to be performed." —*Med. Reg.*

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Ocular Antisepsis.—The oxycyanide of mercury is a very stable salt, fairly soluble, not acid, and does not precipiate albuminoid matters, as does sublimate, and it is more active than the latter against the micrococcus aureus. Dr. Chibret employs solutions of this salt of one to 1,500, and uses it in the form of eye-baths, given in an eye-cup, as its effect is more powerful when its contact with the mucous membrane is prolonged. He also washes out the anterior chamber with this solution after operations for cataract, and immerses his instruments in it for several hours.

Hirschberg, of Berlin, employs a sublimate solution of 1 to 5,000 as an excipient for his eye-washes in cataract, while Mayer uses a solution of sublimate 1 to 2,500 as a wash in the same operation.—*International Journal Surgery.*

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The first number of the *Medicinische Monatsschrift*, edited by Dr. A. Seibert, and published by the Medical Monthly Publishing Company of New York, has been received, and we take pleasure in bidding it a most hearty welcome to the journalistic field. There is plenty of room in this country for more medical journals—if they be edited in German, that is.

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## SOCIETY PROCEEDINGS.

### MEDICAL PRESS AND LIBRARY ASSOCIATION.

Stated meeting, March 16, 1889.

Dr. Wm. Porter read a paper (see p. 337) on

### Pneumonia.

Prof. Wm. Trelease, presenting preparations of the pneumococcus, under the microscope said: Independently of cases of fibrinous infiltration of the lung, in which no specific coccus has been reported, it is known that in the case of rabbits experimental pneumonia can be caused by cutting the pneumogastric nerve. This seems to act not directly, but as a predisposing cause. When in this case the bacillus was found by Schau, known as the bacillus pneumococcus adulens, it was capable of re-inducing the same sort of pneumonia without cutting, so it would look as if the cutting of a nerve served only as a predisposing cause.

There is rather a frequent pneumonia of pigeons and similar birds reported as causing extensive epidemics in zoological gardens, due not to a bacterium but to a mold, the aspergillus; and it is claimed that this has been capable of causing pneumonia in cattle, and in 1887 a doubtful case of this sort was reported by Popoff. This has also been found in human saliva. The aspergillus niger

has the same power of producing pneumonia in ani mals.

In some of the forms of the disease in which suppuration is marked, it is believed now that the principal trouble may be due to the pyogenic streptococcus and that some people connect these with the secondary troubles of diphtheria and scarlet fever, and with puerperal fever. In all of these cases the micro-organisms are exceptional things, and as Dr. Porter said, either one of two forms is the thing that is implicated. There is no actual evidence, that is satisfactory, proving the infectiousness of the disease, and yet the indications are that the disease is infectious or contagious in some cases, which have been subjected to the rather rigid proofs that the German bacteriologists would like to apply. Friedlander found a bacillus in certain cases of pneumonia. The Italians call this Ptoloman's bacillus; it is the same thing. Now that they are applying more rigid methods in making the preparations, it is found in a smaller percentage of cases. The germ is morphologically extremely similar to the other germs. It was thought to be distinguishable by being surrounded with a thick capsule, but it has been shown that it is only one of the properties that a good many bacteria have of forming a capsule under certain circumstances. It is the same thing with the micrococcus tetrogonus. When they occur in an animal they are more apt to have such capsule. This was found to be the case in Friedlander's bacillus, and when it was cultivated in the ordinary nutrient media it is found not to have any capsule, and it resembles in this condition a considerable number of other species that are likely to be found about one. The other species are apt to be found with the capsules, so that one has to take all of the statements of the finding of the bacillus of pneumonia, with several grains of allowance. This Friedlander bacillus is found now only in a very small percentage of cases. It has been shown that if it is injected in sufficient quantity into the pleural cavity of a mouse it causes death with congestion of the lungs and solidification of these organs so that they may be closed entirely against the ingress of air. This is the pneumonia of the mouse. In pure cultures, this micrococcus which grows freely in cultures produces one of the products of its growth, something like the ptomaine, and if injected gives rise to febrile symptoms, so it has been claimed that the fever is caused not by the presence of the micrococcus, but it was on account of the products to which they give rise. Some time after Friedlander discovered this bacillus, Fraenkel found another micrococcus or bacillus. This is the micrococcus. He found it before Pasteur had but thought it was simply a septic organism. That has been found to be present in the great majority of cases of pneumonia that have been carefully investigated. Friedlander found it in a great many cases. The reason that it was reported more frequently at first than now depends on the fact that the two different organisms were confounded. The Friedlander bacillus seems to have been dropped out lately as a probable cause of pneumonia. The bacillus is found in, I think, the saliva of 15 per cent of sound persons. Sternberg first got it by injecting saliva into the rabbit. In cases in which it is ordinarily obtained in this way, what is gotten is not a pneumonia but a septicemia of the rabbit, and yet it has been stated by Monte that if it is put into the trachea of rabbits it causes pneumonia. The only characteristic that can be used for the differentiation of these two is that the Friedlander is larger than the Fraenkel bacillus, but in cultures you can tell at once the difference between them. Fraenkel's grows with difficulty and presents the growth characteristic of the streptococci, while the Friedlander is found to grow more freely at ordinary room temperature and produces a thick slime over the agar.

Dr. H. C. Dalton (by invitation).—Not having had the pleasure of hearing the paper, I can only speak of my experience in the treatment of pneumonia. In my last annual report I reported 124 cases of pneumonia with 45 deaths. Taking into consideration the character of cases that come to the city hos-

pital this may not be considered such a bad average. Most of the cases are broken-down laborers who have been largely addicted to alcohol. I read an article some time ago in which some gentleman stated that he did not think that alcoholics were more liable to death than other patients; I think they are very much more liable to it. Such cases generally die of heart failure. The difference in the treatment in the country practice and the city practice is very marked. In the country it was very rare that I lost a case of pneumonia; perhaps it was on account of the better air and hygienic conditions. The city hospital practice has been to envelop the chest in a cotton batting with rubber tissue placed around it. We give stimulants largely. When the fever is high we give antipyrin. We give alcoholics large doses of alcohol—a tablespoonful every hour when bad. We very rarely bleed. In sthenic pneumonia, I believe it is a good plan to take some blood and to follow this with calomel and Dover's powder. In the treatment of pneumonia in the country my usual prescription in the stage of hepatization was a grain of calomel, two grains of Dover's powder and two of quinine, some arterial sedative, such as a drop of veratrum viride and one of aconite every three hours until the pulse was reduced, using the poultice always in preference to the jacket. Unless the poultices are frequently applied they do more harm than good. There is a powder known as the cold powder which is most excellent; it is something like the Dover's powder, one grain of opium, four grains of carbonate of ammonia and five grains of camphor. Recently we have used a mixture, composed of carbonate of ammonia and salicylic acid, during the second stage, with good results. I don't believe as a rule that arterial sedatives are indicated, unless the fever is higher than 102.5° F. In the ordinary cases we simply use supporting treatment with the jacket and antipyrin when the fever is high, and I believe if such treatment is used the majority of cases will get well.

Dr. Ellsworth S. Smith (by invitation).—I have only a few words to say about the treatment of pneumonia. Sedatives are not indicated. In all cases the tendency is to death from heart failure. I do believe that antipyretics are indicated, and, in certain cases, the lancet. I had that impressed on my mind very forcibly some time ago. I was called to see a case, a negro, whose right lung was then solidified, and he was suffering very greatly from dyspnea and a flagging heart, and I thought the trouble was due to heart failure from over distension of the right side of the heart; we bled him a little more than a pint. He was almost moribund at the time but rallied immediately after the bleeding, and afterwards expressed himself as having been given a new lease on life. He made a good recovery. In the early stages where there is obstruction of the circulation, bleeding is good. In other cases I don't believe it is. Another point which Dr. Dalton forgot to name is the thoracic splint from which I have gotten good results. It is an ordinary cotton jacket applied as a splint, tight enough to restrain the respiratory movement and thereby relieve pleuritic pain and favor expectoration. It renders the coughing more effectual in getting rid of the sputa. It seems to act by forming a cylinder of the chest cavity and the diaphragm acting from below, expels more forcibly the secretion in the bronchial tube.

Dr. Dalton.—In cases of consolidation where we have pneumonia resolving very slowly, I think about ⅛ of a grain of calomel dropped on the tongue every three hours has a most excellent effect. In relation to the opiates they should be used in just sufficient quantity to stop the harassing cough and to relieve the pain.

Dr. W. G. Moore.—Dr. Porter dealt with the cause of pneumonia and its infective nature, but no treatment has been spoken of with reference to it.

Dr. Porter did not suggest the idea of expectorants. I believe they destroy the integrity of the gastric function, which is of great importance. We should recognize the self-limited nature of the disease, and unless the fever goes beyond 103°, nothing more is in-

dicated than warmth and nutrition. The majority of cases are damaged by polypharmacy, and any medicine given to lower temperature that is not over 103°, is an interference.

I am opposed to arterial sedatives, and the question arises as to whether we can limit the exhaustion produced by them. We can not limit exhaustion by depressing the heart's action. The paralysis of the heart is to be feared, and it is the mode of death in the cases I have seen. I believe in the hypodermic use of strycnia, especially in reference to alcoholics. I think, moreover, that when the powers begin to flag that whether the patient be subject to alcoholism in any form or not, alcohol and strycnia form the basis of our resources. Digitalis acts best as a heart stimulant. It is a sedative simply as it tones up the heart. I want to cite a case of pneumonia that came into the Protestant Hospital. The patient was an employe of Wainwright's brewery, which suggests the idea that he was addicted to the drinking of beer. When I saw him he was walking about the wards. The nurse said that the man was slightly delirious, but whenever we held his attention, we got a reasonable answer. There was no involvement save the right lower lobe of the lung. He continued restless, and the next morning at 8 o'clock, without any further involvment of the lung, he died in a few moments. If strichnia had been used with alcohol and digitalis I think he could have been saved, as the lung was not involved to a sufficient extent to kill him. There was no evidence of a heart clot except that he died suddenly. He was 45 years old, well nourished, and seemed to be in good condition.

Dr. A. H. Meisenbach.—An old saying comes to my mind that "all that is true is not new, and all that is new is not true." According to the present theory of pneumonia there is not much relation between the treatment and the accepted origin of the disease. That is, if the disease is due to an infectious germ. Stimulation is one of the essentials in all such diseases. All those who have read Niemeyer, remember that he speaks of the theory that was once propounded by Rodemaker, who had the idea that acute lobar pneumonia was due to an acute anemia, that there was an intense congestion with an exudation in the lungs, and this caused a locking up in that organ of a great number of red blood corpuscles which produced an anemic condition elsewhere and he administered iron in the height of the fever.

I was called to a man who was suffering from this disease of the so-called bilious type, where hepatization was so great as to compress the liver and produce jaundice. His conjunctivæ were jaundiced and the skin and urine were highly colored by bile, he had diarrhea of a bilious character, and had been taking active cathartics without the necessary amount of stimulation; his temperature was 104° and his pulse 120. I expected the patient would die. I gave him two grains of quinine combined with ten minims of tr. ferri chloridi every two hours, and wrapped his chest in hot poultices. I left that evening and saw him again at ten o'clock the next morning. He was better, his temperature was down and he was looking improved generally. I gave nothing but quinine and iron, and he made a rapid recovery.

Another case that fully impressed Niemeyer's argument on my mind was a case of catarrhal pneumonia in an aged lady to whom I had given digitalis, amonia, etc., and thought that the outcome would be fatal. As a last resort I gave iron with the same splendid effect. When I called to see her again the temperature had fallen and the pulse was better, and afterward the patient recovered.

I have a patient under my charge, a young girl who had a temperature of 104°, pulse 120 and there was hepatization of the lower portion of the right lung, there was absence of the rusty colored sputa, there was no free expectoration, and the sputum was gotten up with great difficulty, which was of the prune juice variety. I gave her antipyrine five grains every three hours for forty hours without any decrease of her temperature. As I had used it in other cases I began giving the

elixir of gentian and tincture of chloride of iron. The next time I called the temperature was one degree less, pulse less frequent, and from that time it fell, and two days later her temperature was normal.

We all know that pneumonia may run its course; a crisis may take place at th 5th, 7th, or 8th day; that this crisis may far overreach this time, and sometimes it does not take place at all. It is rather hard to reconcile these facts. Just in what the remedy does its work we cannot say, but, nevertheless, it seems to be an important factor in the treatment of pneumonia. I am not a polypharmacist, neither have I faith in any one remedy in any particular disease, but it seems to me there are certain phases of pneumonia where iron is of great importance.

The splint that Dr. Smith mentions controls the respiration, making it abdominal, and gives the inflamed lung rest.

I would emphasize the iron treatment because I have not seen it advocated by anyone. I don't employ it without variation. I don't follow it even as a rule, but in those cases in which I have tried it, it has given very excellent results. If there is anything in the the ory advanced by Rodemaker certainly there is a place for the iron treatment in pneumonia.

The treatment based on the infectious theory of the disease is that through the process of elimination. If the infection theory is true, in certain cases the supportive treatment merely assists and favors elimination through the alimentary tract, the kidneys, lungs and skin.

Dr. F. R. Fry.—The most interesting feature of pneumonia is its causation. Amongst the suggestive facts brought out by Prof. Trelease, one was that the severence of the vagus nerve was capable of producing, in animals, pneumonia, and that the products of this pneumonia injected into other animals in which the vagus had not been severed would sometimes produce a similar condition. This at first sight would seem strange, and yet it is not out of keeping with our present theories of the etiology of infectious diseases. The severence of the vagus nerve would put the lung in such a condition as to afford less resistance to the micro-organisms, and that is probably the manner in which we would explain the causation of pneumonia amongst only a few of the population even when it prevails in the shape of an epidemic. An old theory was that pneumonia was caused by cold, and there would certainly seem to be a basis for that theory. We have too often observed persons affected with pneumonia after they have been exposed to cold to doubt that cold acts as a factor in its production. But it acts by putting the system in a condition to receive the specific organism. The same is true of phthisis. We know that we all, perhaps equally, come in contact with the bacillus of phthisis, and yet only certain individuals succumb to its effects. The weak circulation of tuberculous patients has been remarked, and it may be that right there is where the individual susceptibility to disease comes, so that it is not impossible to harmonize the fact that pneumonia is due to cold, and due to the micro-organism, the former factor acting as the predisposing cause. There may be certain individuals who are more susceptible to pneumonia than others. Certain individuals have two or more attacks of pneumonia, years intervening between them.

Dr. I. N. Love.—The paper was an interesting one, and the remarks made by Prof. Trelease were also interesting. In the management of pneumonia we have to treat our cases individually. There are, of course, some general principles which we must recognize and be governed by, but we ought to individualize. Every case is a law unto itself. I can conceive cases in which sedatives might be indicated. These are in the inception generally. In the use of stimulants we sometimes get the cart before the horse. There may be times when the heart is flagging and we must give something to tone it up, and I think that digitalis in that connection is now and then indicated. Alcohol is frequently a potent factor in the matter of over-stimulation. So far as the treatment of alcoholics who may be the victims of pneumonia is con-

cerned the case cited by Dr. Moore recalls to my mind one which occurred in my own practice nearly two years ago. I had been the family physician for 10 years. To my personal knowledge the head of the family had been in the habit of drinking not less than a pint to a quart of the best whisky every day. I never saw him drunk in my life but he was always chuck full. One day in the last year of his life he called at my office suffering with some local disturbance of the nasal and air passages; in the direction of observing the golden rule and doing to others as I would be done by, I distributed that patient to a specialist; I sent hin to a laryngologist. He misinterpreted my action, he fancied I was not treating him with proper consideration, was anxious to get rid of him; as a result of that I lost the family. I was not called again to that family until six months later, when I was summoned in consultation and found the same gentleman dying of pneumonia. He had been taken sick three days before and had stopped in to see a physician down town who took his case. It was the third day when I saw him. He was almost at the point of death; lived but a few hours afterward. I found that he had been given only a tablespoonful of whiskey every three hours from the time he was taken sick. Here was a man who had been saturated with whiskey for 10 years; who had unfortunately fallen out of the hands of the family physician who was familiar with his habits, into the hands of another man who frankly told me he did not know that he was a drinking man. I simply cite this case as illustrating the point made by Dr. Moore that alcoholics do not get enough alcohol. I should give antipyrin sparingly in pneumonia and accompany it with alcohol. The suggestion of Dr. Meisenbach of giving iron if the disease is infectious is parallel to the usual treatment in diphtheria in which we give large doses of iron. It is an argument in favor of the infectious nature of the pneumonia. Speaking of antipyrin in pneumonia, I was called to a child 4 years old that had been quite sick, taken with high fever and treated with 5 grains of antipyrin every 3 hours for two days. The child was in a collapse condition when I saw it, I made my examination of the case and discovered that which had not been observed before, how long it had been present I do not know, I discovered pneumonia at the base of the right lung. The child had been lying on its back all day in an insensible state, and I think it was possibly solidification from stasis, hypostatic-pneumonia in other words, and I believe that the antipyrin was the cause of it. This case with others has suggested to me the desirability of going slow in the use of antipyrin in pneumonia. The treatment on general principles to be pursued in pneumonia is to meet the symptoms, subserving the comfort of the patient, if there is pain meet it, if it be necessary toward the accomplishment of the purpose, apply the splint; I much prefer the use of the oiled silk next to the skin with the cotton batting outside of that. The oiled silk acts as a sweating case. Poultices are rarely properly applied. The getting open of the secretions is an important matter as it is in all diseases. Aiding elimination, especially if the disease is infectious as by keeping opening the excretions we stimulate nutrition, we keep up the support of the patient, and to this end I think a brisk dose of calomel, followed for its eliminative influence by broken doses of calomel during the course of the case. It serves to keep the alimentary canal in a healthy condition. Benzoate of soda is also indicated as it stimulates the glandular system. I do not believe in giving medicines in pneumonia unless there is some special demand for them. The remedy which I believe is frequently overlooked and one which at one time was considered the most important part of the initiatory treatment is the emetic. I think we have in this a most valuable aid to our cases in the beginning. The emetic which is also expectorant which I prefer is the tartarized antimony minute doses. I remember the remark of my old friend and family physician in the country, Alfred Baker (brother of Col. E. D. Baker), a very able and accomplished physician. He said that he believed that he

never treated a case of pneumonia correctly unless he started in with calomel and tartar emetic.

Prof. Trelease.—I quite agree with what Dr. Fry has said in regard to the predisposing causes. Of course when you admit a predisposition, you have left the ground of tangible data and yet there is every indication in experimental bacteriological investigation that predisposition acts simply as Dr. Fry has indicated.

Dr. Bransford Lewis.—I wish to say a few words only in reference to the antipyretic effects obtained from antipyrin and antifebrin. I have been impressed with the idea that these drugs do not exert any very marked antipyretic effect unless at the same time they produce free sweating. I have given them with a view to ascertain this point, that is, I have given them and put the patient at the same time under such conditions that he would not sweat, in which case the temperature was affected only to a slight degree, if affected at all; whereas when the patients were kept covered well so as to conduce to free diaphoresis the result has generally been a marked lowering of the temperature, more especially from antifebrine than antipyrin.

In one case of pneumonia in an elderly and delicate lady, I used antifebrin with the most marked beneficial effect, not only as regards the lowering of the temperature, but it almost invariably exercised a calming, soothing influence over her, along in the afternoon when she became nervous and restless. Instead of there being any depressing effect from it the patient felt much better each time and would frequently pass off into a refreshing sleep. With regard to the stimulant plan of treatment of pneumonia, I believe there is an inclination to employ it too soon in a great many cases. Whiskey is administered early in the disease with the idea of supporting the patient throughout its duration, but in this way, by giving it at the wrong time our chief resource is wasted and when the time of prostration comes—at the crisis—our patitnt is used to the stimulant and it has no more effect than so much water. I believe that we should support the patient only with nutrients until this time of depression arrives, and then we should stimulate in earnest and give large quantities of the best brandy or whiskey, alternating with champagne, and make use of the hypodermics of strychnia as I mentioned at our last meeting.

Dr. Porter.—I am glad to see that you all coincide with my ideas of the treatment of this disease. I would reiterate that my idea is to give as little medicine as possible, stimulate only when necessary, nourish all the time, and when the crisis occurs, having had in reserve our stimulants and heart tonics, we may then use them with good effect, as it is a self-limiting disease, if the patient can be made to hold his own till the crisis is past; if he fails it is because the remedy has not been applied at the right time. Things that are right at the crisis may be wrong before the crisis.

I have been surprised to see good men giving brisk stimulation in the early stages of pneumonia.

Recently I saw a case who had been getting stimulation from the first, when the crisis came digitalis seemed to have little effect, and I am not sure but that he died because the reserve was not held in reserve until it was necessary.

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## SELECTIONS.

### ON THE MICROSCOPICAL DIAGNOSIS OF CANCER.

BY EDWD. M. SCHEFFER, M. D., WASHINGTON, D. C.

Cancer is a disease which is, unfortunately, but too common in all parts of the world; and whether, as some have asserted, there is a higher percentage of deaths from this cause in the District of Columbia and the adjoining States than elsewhere, or whether there is a tendency of these cases to gravitate hither from other portions of the country,

certain it is that the records of our Society, as well as the vital statistics of the District show that we have at least our full proportion of deaths from this disease. To the theories as to its cause I shall but briefly refer, leaving also the practical subject of treatment to the physician and the surgeon.

A somewhat particular study of morbid growths, extending over upward of twenty years, and observations founded on many microscopical examinations, as well as such clinical notes as I have recorded in my notebooks, wherever such were obtainable, would seem, however, a sufficient basis upon which to offer some practical points which may be of advantage to the general practitioners, as well as to the surgeons included in the membership of our society.

The minute structure of malignant growths has always attracted the attention of the most eminent pathologists ever since the improvement of the microscope has enabled hem to be studied under a magnifying power sufficiently strong to give those details of cellular structure on which this classification in modern pathology is founded.

To a certain extent this classification has given us results in harmony with the clinical history of such growths, and been of practical use to the physician, whom it enlightens on obscure cases of internal growths, often enabling him to make a correct diagnosis when other signs fail, in such cases as afford an opportunity for the study of the morbid products expelled by the natural outlets of the body. When these chances do not occur, it is but too often, it must be admitted, that it only proves of post-mortem benefit to the patient and his friends, in ascertaining after death the exact nature of the disease. Even here the aid of the microscope is frequently invoked and clears up many otherwise doubtful cases of diagnosis where the unaided vision would leave the case in uncertainty, and the practical advantage in the diagnosis of future cases presenting similar symytoms is not small.

In the majority of cases of external cancer of pronounced types, and especially in epithelioma, we are able to make the diagnosis with much precision, and a prognosis based upon such results is of a high degree of certainty. The surgeon is encouraged, and the patient is induced to submit to an operation the arguments in favor of which might otherwise fail to carry conviction.

But there are some forms of morbid growths resembling, in some particulars, malignant disease in structure, where the natural history is widely different from that of the true malignant types, and in spite of the elaborately illustrated works on the subject, the physician will frequently come across forms not distinctly referable to any of the classified types. This is to be expected, because we now know that cancer is not, as was formerly supposed, an entirely foreign and separate entity, having its seat among the healthy tissues of the body, and from which it draws nourishment while it destroys them, but rather the cellular manifestation of certain modifications produced in previously normal tissue by a process of disease not apparently governed by such well-defined and definite laws as would lead us to expect uniformly similar results in similar growths observed in different cases.

The possible production of cancer by a minute parasitic form of a vegetable nature has recently been again discussed, and though the omnipresent microbe has not yet been traced to its lurking place in this disease, there is much plausibility in the theory of such an origin for benign as well as malignant growths.

The curious distortions of leaves, flowers and other parts of the plant under the irritating influence of insect punctures, and the tumors and hypertrophies of limbs of trees and shrubs evidently due to extraneous causes at first, cannot fail to suggest to the student of nature a certain analogy to similar distortions in the animal structure, which while it may be fanciful, is possibly a suggestion of a somewhat similar cause in both, modified in its results in the animal by its differing and more highly organized systems of nutrition and growth.

As far back as 1854, a member of the Royal Microscopical Society of England, Mr. Jabez Hogg, in his work on the microscope, expressed a belief in the "fungoid origin of cancer." But taking our knowledge of the structure of cancer as it stands, the question arises whether in spite of the acknowledged ability of the microscope to distinguish its principal types, the surgeon is using that instrument to the extent of its power in diagnosis. Whether in fact, disgusted by a few contradictory, results he is not inclined to consign it to the category of wholly unreliable tests? While but few are willing to put themselves on record to this effect, the less guarded private utterances of some of our own members would seem to indicate such an opinion.

Let me briefly advert to the causes which I believe have induced this mental attitude on the part of some members of the profession. In the first place, as some one (Huxley I believe) has remarked, the value of microscopical observations depends much more on the quantity and quality of cerebral tissue behind the visual organ of the observer, than it does upon the excellence of the lenses in front of that expressive feature. Some men seem never able to acquire the faculty of intelligent and discriminating observation. But this should no more discredit true microscopical work than the erroneous observations of early writers in ascribing certain diseases to microscopical germs, as malarial fever to Palmella, for instance, should be used as an argument for the fallaciousness of all later work by other observers in the same direction. And it would be illogical for the surgeon to take the ground that because the electrical indicator gave erroneous results in the the localization of a metallic missile in the case of President Garfield, therefore all future appliances of electricity as a guide to the surgeon in doubtful cases should be condemned.

Really good observers are sometimes overawed, as it were, by a previously announced diagnosis by men of high reputation, to the extent of modifying their own observations to accord with the weight of opinion among those who have viewed the case from an entirely different standpoint. The result is apt to be a sort of composite opinion, from which all true original judgment has been eliminated. But I take it to be the function of the microscopical observer, when appealed to in doubtful cases, to ignore all collateral evidence as much as possible, and pronounce an opinion independently of any other considerations on the case before him. Whenever I have allowed myself to be thus biased it has subsequently proved that my judgment would have possessed more value if entirely free from such influence, and it has been my habit for years when called on to examine a case of suspected disease, whether cancer or other morbid process, to request that all information as to the case be withheld until I have written my opinion. Another advantage of this method is, that whereas the human memory is often treacherous, the *litera scripta manet*, and the possession of written copies of all opinions, has been of value in case the loss of the copy given the patient or his medical adviser might lead to dispute as to what such original opinion had been. After this has been done I endeavor to obtain for my note book all points of peculiar interest in the case, and the final result whenever practicable.

I have in my cabinet sections of a thickened band of the mucous layer of the rectum in a case in which the patient had procured the opinions of eminent surgeons in this city and New York. The identical piece from which my sections were made had been examined microscopically by different pathologists, and pronounced epithelial cancer. One of the observers who gave this opinion was the author of a valuable work on the diseases of the rectum. Yet this was a case where a thorough acquaintance with the normal structure of the part seemed to justify my opinion given in writing to the patient, that there was not a single spot in the section which could not be duplicated from a section of the normal rectum, a hypertrophy and somewhat abnormal position of the mucous follicles of

the part having, however, produced in the sections an appearance somewhat resembling certain forms of glandular neoplasm, but certainly not the structure of epithelioma. The sections on which I based my judgment were, some of them, submitted by the patient to several expert microscopical diagnosticians in Baltimore and elsewhere, who without being informed of my opinion already given, coincided in their judgment of the case with the view taken by me. Had I been previously acquainted with the array of surgical talent that had pronounced the case one of cancer I might have been frightened out of my diagnosis, yet the patient, who had, no doubt, for some time carried the growth which was first submitted to me in April, 1886, has since been perfectly restored to health, after a not radical operation by electricity as I have been informed, and when last heard from had experienced no return of the growth.

This case serves to illustrate the importance of another requisite in microscopical diagnosis, for want of which the best powers of observation and the most cultivated judgment will sometimes fail, viz., a sufficient experience not only with morbid growths, but with all the normal tissues of the body. No one can be reliable as a pathologist in the study of the more evident changes which the unaided eye detects in disease, unless familiar with all the variations in health. This seems a truism, yet it is apt to be lost sight of in the applications of the microscope. A section through a Paccinian or tactile body in the finger of an infant, perfectly normal, was once submitted without remark to a microscopist, who unhesitatingly pronounced it to be epithelioma. Yet the gentleman whose more particularly pathological studies led him to pronounce this opinion, was an eminent observer, so eminent that the ingenious youth who had interrogated him, being an official subordinate, was afraid to inform him of his error, and he never, consequently, derived the due benefit from that object lesson.

Besides a knowledge of normal tissues, the observer should be familiar with the changes produced by simple inflammation, hypertrophy, lesions of particular diseases, such as syphilis, etc. An acquaintance with the modifications due to chemical re-agents is sometimes useful, as well as considerable experience with vegetable and other extraneous structures, when discharges supposed to be from the bladder, uterus, etc., are searched for indications of cancer. Altered membranes and clots from the uterus are often of a very puzzling description, and without much familiarity with these discharges serious error may arise.

A rock on which many observers are wrecked is the improper selection by the surgeon of the portion of tissue to be examined. For fear of taking too much tissue, a small piece may be excised which on examination will show the effects of inflammatory induration, or hypertrophy of the part such as commonly occurs in the neighborhood of malignant growths, and yet no true cancerous structure be included. The diagnosis is correctly made, but upon imperfect data, and the result is that the microscope, in common parlance, gets "a black eye" as an instrument of accuracy in diagnosis. In other instances a growth which in its initial stage has not fully attained the structure of carcinoma, if not removed, may subsequently proceed to develop its typical character and a diagnosis founded on an early examination be thus discredited.

In conclusion I will briefly relate a case of peculiar interest to me, in which at the first examination of the patient's urine I made the diagnosis of cancer, which has since been confirmed by the subsequent history and an autopsy.

A man, about 60 years old, was sent to me May 4, 1888, by Dr. N. S. Lincoln, for the purpose of having an examination of his urine. Patient was tall, dark complexioned, rather sallow but not cachectic in appearance, said he had pain in his back. Had not yet been examined by Dr. Lincoln, who wished to learn the condition of his urine he said. He sent for report the same afternoon, but it was not completed. The report sent to Dr. Lincoln was as follows:

Anal. 3720 May 4, 1888.—Color of urine

natural, nearly white, moderate amount of deposit, of a whitish flocculent character, moderately acid, spec. grav. 1.014. Quantity in twenty-four hours not stated, but patient had observed no change in that respect of late. Albumin about one-half of volume when coagulated. No excess of phosphates, no sugar, urea not below normal average per oz. Microscopical examinations: No casts. No fresh blood, but shreds of fibrin (from blood-clot?). The deposit contained a large proportion of pus, and epithelium from the bladder, and also numbers of large, many nucleated cells, not normal. No crystalline sediment.

In a note to Dr. Lincoln accompanying the report I said: "As this patient was apparently very anxious about his case and migh t want to see the report of analysis, I write you separately in order not to needlessly alarm him, to say that there is no doubt in my mind as to the character of the many-nucleated cells, viz., that they are typical cancer cells. If any small clots are observed in his water, it might be well to have him drop them into weak spirits and let you see them."

May 10, 1888. To Dr. Lincoln: "I gave Mr. J.'s son the result of the second analysis in his father's case, and see no reason from the microscopical appearances in this analysis to change the opinion of the case formed at first. Absence of local pain and hemorrhage may indicate a favorable form or early stage of the growth, if one exists."

The case progressed and I made frequent examinations of the urine up to July 18th. The albumin was always found, but diminished in amount ultimately. The color was for some time natural, and no clots or increased deposit to attract the eye, at first, but subsequently the urine became turbid, and the deposit more abundant, and pinkish in color, and toward the last a few blood-cor puscles appeared. No casts were found at any time. The urea gradually fell below normal average. The many nucleated cells were at first all separate and distinct, but in Analysis 3218, July 16, they were also found in small continuous fragments of tissue, the largest of which were distinctly visible to the naked eye. Death occurred on November 3, and an autopsy was made by Dr. D. S. Lamb.

[The right kidney was found, at the autopsy, to be converted into a cancerous mass, which under the microscope showed the structure of epithelioma.]

## BOOK REVIEWS.

LECONS DE GYNECOLOGIE OPERATOIRE.—[Lessons in Operative Gyncology]. By Vullist, Professor in the Faculty of Medicine of Geneva; Ex-Surgeon of the Maternite; Corresponding Member of the Gynecological Society of Paris, etc., and Lutand Professeur libre of Gynecology at the School of Practice; Consultant to St. Lazare; Charter member of the Gynecological Society of Paris, etc; 180 figures,. 1889s J. B. Bailliere et Fils, Paris.

As a justification for the presentation of this work, the authors point to the paucity of books on Gynecology, relating strictly to the operative aspect of the subject. Students are well furnished with large treatises on the subject, devoting many pages to the study of inflammations, congestions, engorgements, etc., but giving only the slightest allusions to any operative procedures that may be advisaable. They describe with the greatest minuteness many varieties of vulvitis, of vaginitis, of metritis, but are relatively silent on ovariotomy, trachelorrhaphy, hysterectomy and other surgical therapy, within whose limits the substance of this volume is confined. It is based on lectures delivered by the authors to their respective classes.

The subjects considered are, first, the application of antisepsis in operative gyneocology; the different postures required for the various operations; astificial prolapse of the uterus; genito-urinary fistulæ; the operations applicable to the uterine fibromata; gynecological orthopedics, etc. The treatment of sterility, particularly by means of artificial fecundation is discussed at some length.

The cuts which are numerous are original and clear and are well adapted to the elucidation of the text. The book will certainly fill most admirably a place in surgical literature.

It is bound in true French style, that is, no binding at all, practically, but this is a la mode, so to speak. B. L.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### A CASE OF SENILE CHOREA.

BY J. M. ANDERS, M.D.

Read before the Philadelphia County Medical Society.

By the majority of authorities, chorea in aged persons is believed to be rare. Not many years ago, writers on the subject of chorea held that old age was of itself conclusive evidence that this disease did not exist in any given case. But since the collection and publication of twelve cases by Robert Saundby, in 1884, the fact that senile chorea is a distinct affection, can no longer be doubted. From ordinary chorea, which usually occurs during the period of approaching puberty, it differs widely as to etiology, and, probably, pathology as well. Believing that the extreme rarity of the occurence of chorea in the aged fully justifies those practitioners of medicine who meet with it in publishing an account of their cases, I make no apology for placing on record the following case, which came under my notice in the Episcopal Hospital. The resident physician, Dr. G. B. Tullidge, has kindly furnished notes of the case, to which only slight additions have been made.

J. B., æt. 60 years, occupation cloth-cutter, was admitted to the medical ward of the Episcopal Hospital August 27, 1888. Patient, prior to present trouble, was in most excellent condition. He has had smallpox, three attacks of gonorrhea, and acute articular rheumatism, all over thirty years ago. His habits have ever been temperate, though he has occasionally indulged in alcoholic drinks. His father, of sound body, was drowned. His father's brother died of old age, at 90 years, and his mother, prior to death from cholera, in 1847, had always been in vigorous health.

He attributed the present attack to exposure while at Atlantic City in July, 1887. One hot night he slept with his head on the sill of an open window; the wind changed, the temperature fell, and he awoke cold, chilly, and suffering with pain and stiffness in the muscles of his neck. From that morning began the symptoms now complained of. The patient, an American by birth, has always lived in Philadelphia, is five and a half feet tall, and spare, though as well nourished as he has ever been. He comes complaining of his inability to keep at rest while awake, of oft-recurring attacks of fidgets. The attacks have so increased in severity and frequency as to compel cessation from work. There is a slightly increased prominence of the nape of the neck, though no actual deformity of the cervical portion of the spinal column is discernible; and his head is constantly held more rigidly erect than would be naturally expected of a man of his age. During an attack the muscles of the neck, back and chest, undergo irregular spasmodic contractions, causing shrugging of shoulders, twitching of arms, and well-marked jerking of head, which is thrown in the backward direction. The face also is thrown into movement, and exhibits characteristic choreic grimaces, with rolling of eyeballs. As the attack proceeds, the diaphragm becomes similarly affected, causing great difficulty in breathing. Inspirations are jerky and irregular. The accompanying dyspnea is always a most prominent and distressing symptom. During the attack, great pain is felt in the back of the head and neck. Each exacerbation lasts from one to four hours. During the intervals he feels quite well, and has only an occa-

sional involuntary twitch. Insomnia is very great, and night follows night before he procures refreshing sleep. The intervals of quiet vary considerably in length; one, two, three, or more days may intervene between these attacks. His appetite is fair, and his digestive functions are performed with apparent vigor and regularity. The action of the heart is constantly rapid, the pulse rate ranging from 110 120 per minute, but there are no evidences of organic valvular disease detectable. Neither are there any characteristic subjective or objective symptoms present, pointing to any nervous trouble other than chorea. There is no dementia.

When admitted, he was placed on a mixture of quinia, iron and strychnia; also, was given ten grains of bromide of potassium every three hours. This treatment was continued for three weeks without benefit. The bromide of potassium has been mentioned by Charcot as being of service in this disease. Arsenic, which was administered both by the gastro-intestinal route and hypodermatically, proved valueless, as did also antifebrin given in doses of grs. iv. every three hours. During the attacks, hypodermatic injections of morphia afforded relief, causing sleep. The hydrobromate of hyoscin—a remedy recommended by Dr. S. Weir Mitchell, seemed to have a beneficial effect when first used,though soon lost its virtue.

But, though treatment was apparently of no avail in this case, Charcot's view that chorea in the aged is incurable, is not supported by all of the facts, since Dr. Russel relates a case that recovered at the expiration of three months, from the use of sulphate of zinc.

Dr. Sinkler has reported two cases, one of which recovered in four months. Still another case, first seen by Dr. Saundby when the patient was fifty years of age, suffering from left sided chorea of an intermittent form, again fell under his observation when sixty-six years old,and at this time was almost cured.

Is senile chorea due to emotional causes? The emotional theory was advocated by Charcot in his famous lecture bearing the caption "Chorea in Old People." But, as pointed out by Saundby, this view must, in the light of facts more recently observed, be abandoned. The two cases reported by Charcot (loc. cit.) were demented; also a case reported by E. J.Davis, and still another by M. Bacon, in which instance the patient had chronic mania. Thus, in a total of thirteen recorded cases, in all of which the mental condition was noted, four were demented—less than one-third.

Dr. Saundby saw three patients suffering from this disease, all of whom had advanced degeneration of the arteries. This observer believes "that it will be found that the pathology of this disease is some actual structural change, such as small hemorrhages in the corpus striatum, and that it is not merely a functional derangement." In my own case there were present evidences of commencing atheroma. Of all the collectable cases, only four showed this condition—too small a proportion to base thereon positive conclusions.

The influence of sex may be shown to be considerable, since in eleven of the thirteen cases reported, the sex has been noted, and of these eight were males, three females. This would appear to be an exact reversal of the influence of sex in chorea occurring in children, for in the latter, according to the statistics of Dr. Wharton Sinkler and others, the ratio is about three to one in favor of the girls.

Of the thirteen cases, only three were associated with heart disease, a fact showing but a feeble, if any, connection between senile chorea and cardiac affections. Not more than two of the total number gave a history of previous rheumatism. A final point to be made is that any theory as to the pathology of chorea in the aged, based upon the meagre data at present attainable, must be purely speculative.

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DISCUSSION.

Dr. Wharton Sinkler said: I have recently had the opportunity of seeing this patient of Dr. Anders, at the Philadelphia Hospital, where he now is under the care of Dr. Lloyd.

The movements seem to be pretty much as they were when he was at the Episcopal Hospital. I think that cases of senile chorea are not quite so rare as one would suppose from the literature of the subject. I have frequently seen in old persons an irregular choreic movement of the extremities. I have now under my care an old gentleman, æt. 80, in whom there are choreic movements of the left arm and leg. On inquiring in reference to the duration of this movement, I learned that it had not been before observed either by the patient or his relatives. In this case there was a transient attack of right hemiplegia a couple of years ago. In senile chorea I think that there must be an organic lesion, due probably either to small hemorrhages or embolism in the corpus striatum.

Dr. William Osler said: I think that senile chorea must be entirely separated from ordinary juvenile chorea. Almost all cases of senile chorea are probably associated with organic changes, whereas the evidence is uniformly in favor of the view that the chorea of children is very largely a functional disorder.

Dr. Anders said: I have in my paper pointed out that the chorea of the aged differs widely from chorea of childhood. I noticed the influence of sex,and the fact that in children the results of treatment are, as a rule, quite satisfactory, while in the aged, with the exception of one or two instances, treatment has had but little effect. This would seem to indicate that there was some pathological lesion present in the chorea of aged persons to explain the difference in the results of treatment.

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The seventh Decennial Convention for revising the Pharmacopia of the United States of America, is called and will be held in Washington, D. C., May 7, 1890. A circular requests that every incorporated medical or pharmacal college, association or society desiring to be represented in the convention send its corporate title and its list of officers to Robert Amory, care Dr. E. H. Brigham, 19 Baylston Place, Boston, Mass.


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R. L. THOMSON, EDITOR.

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SATURDAY, APRIL 6, 1889.


## "NEW DISEASE CALLED 'IT.'"

It is very seldom, indeed, that matter pertaining to medical subjects appears in the secular press, especially in the daily newspapers, that merits any notice from scientific medical publications.

The following clipping, printed in full,from the *Philadelphia* (daily) *Press* of recent date, was read by us with considerable interest, our curiosity having led us to read enough of it to find mentioned in it the names of two very prominent and reputable physicians.

"The greatest interest is likely to be almost immediately aroused among physicians generally in a new and very prevalent disease which affects actors, actresses, singers, lecturers and public speakers more severely than any others of its victims. Dr. Carl Seiler, of this city, lecturer on throat diseases, of the University of Pennsylvania, who has carefully noted its symptoms and followed its effects, has probably had more to do with bringing it to light than any other medical man. Dr. Seiler is positive that it is this trouble that prostrated Mrs. Langtry. He thinks it is the same disease that caused Miss Julia Marlowe's temporary retirement from the stage, and while he has been kept in ignorance of Miss Mary Anderson's symptoms, he would not be surprised to learn eventually that she, too, is a victim of this novel ailment.

Dr. Seiler calls the disease "it," in the absence of a better name. "The reason for this name," explained Dr. Seiler last night, "is this: I had been studying the queer symptoms and accompanying conditions which I shall

make clear to you later, for the past three years. When I attended the meeting of the American Medical Association, I took occasion to inquire of every physician I met about this thing, and of the 300 or 400 I questioned, Dr. William Glasgow, of St. Louis, who is in charge of the hospital there, was the only one whose observations and conclusions agreed with mine. He had called it 'it' and so had I. So, for the present, we shall continue to call the disease 'it.'

"Now, as to the disease," went on the Professor. "It seems to me to be an entirely new one. Its symptoms and courses do not tally with the description of other diseases, although it resembles a good many in its different forms. The most prominent symptom, in the first place, is a muscular or neuralgic pain, mostly in the back. Another important symptom is extreme weakness which comes on suddenly without any rise in pulse and without fever. The patient is languid, disinclined to work, the appetite is usually abnormal and in a majority of cases the throat becomes affected, giving rise to something like tonsilitis, which, however, is not amenable to local treatment, as is the ordinary form of tonsillitis. It is infectious without being contagious.

SYMPTOMS OF DYSPEPSIA.

"In other cases the mucous membrane of the stomach becomes affected, giving rise to severe symptoms of dyspepsia. In still another class of cases the mucous membrane of the bowels is affected, and the symptoms appear to be typhoid fever, but in all those cases neither the pulse nor the temperature shows any febrile disturbances in the first day or two. In all these genuine cases the fever first comes and then the disease develops. After the lapse of several days the pain usually disappears, while the general weakness increases, and then, as the heart becomes weaker, both pulse and temperature become higher. The glands, usually in the neck or in any other part of the body, are more or less affected, being tender to the touch and somewhat swollen. If it appears in the throat or nose we frequently find false membranes upon the surface of the mucous membranes closely resembling the false membranes of diphtheria, differing from it, however, in the fact that they do not change color nor turn up at the edges, nor is there any rawness or ulceration beneath.

"In the cases which have succumbed to the disease the post-mortem examination has given actually negative results, and the examination of the false membranes for specific bacteria or microbes which might be the cause of the disease has also been negative as yet, although carried on by men eminent in this line of investigation. The ordinary treatments for influenza, or tonsilitis or pharyngitis are of no avail. Local applications are only palliative and of very little use in curing the disease, although they give great comfort to the sufferer.

"What is the disease? you ask. In my opinion it is infectious, in all probability caused by an organic poison known as 'ptomaine,' or the poison of decomposition, which is highly volatile, and is probably introduced into the system through the lungs. The experience in a large number of cases which have been observed teaches that this poison can be eliminated from the system only by means of the kidneys and the skin, and apparently by no other way. The treatment should therefore, be directed toward a stimulation of the excretion and urine and of perspiration.

"This disease is very general. Cases come to my attention daily. It is on every hand. People have all the symptoms of typhoid, and yet they have not typhoid fever. They have all the symptoms of diphtheritic sore throat, and yet that is not what they have. The treatment is very simple if taken in time, as has been demonstrated again and again. It seems to have spread all over the United States, and I think the doctors will speedily awaken to its importance. I have just heard through a student of mine of a case in the new state of Washington. A case came to my attention that had been contracted in Asheville, N. C. The description I saw in the daily newspapers of Mrs. Lang-

try's sickness makes me think that she is afflicted. As the disease affects the mucous membrane of the throat actors and singers are the most affected. I feel sure that that is what is the matter with Miss Marlowe. Preachers and lecturers have been the more severely affected of those suffering from it that have come to my attention. The mental effort of thinking weakens the muscles of the throat, and as the throat is the most easily affected it quickly gives out.

"The German Medical Society, of Philadelphia, has had the matter called to its attention, and a committee has been appointed and investigated the symptoms with interest. I know of the wife of one physician who was in bed seven weeks, and all I could do I could not convince her husband that she did not have diphtheria. She had a clear case of 'it.' The wife of another doctor was terribly sick with 'it,' but after simple treatment was able to attend the theatre next night. The Medical Society of New York has awakened to the fact that there is a new disease, or a new phase of an old disease. They say it is something like tonsillitis or pharyngitis. It puzzles them because they do not know it is 'it,' and do not yet know what 'it' is."

Dr. Seiler's name to those who know him personally, and his high professional standing with many not personally acquainted with him, are sufficient guarantee that what he has said in his lecture at the Pennsylvania Medical school was not meant for the public press, much less that he had anything to do with its appearance in it. Of course he is to a greater or less extent misrepresented in all the language accredited to him by the newspaper reporter who has "written up" the subject. The clipping, therefore, has no intrinsic value, but we have run the risk of reproducing it because it is the first notice in print we have seen of the "it," of which, however, we have heard considerable. We suppose that although the accompanying is far from being a correct report of the professor's words or thoughts, yet that a medical man can gather from it some little notion as to his views, to the extent at least that he believes that he has met a new or at all events a hitherto undescribed disease, and that it has been quite prevalent, that it should be systematically and scientifically investigated.

We happen to know from other sources that Prof. Seiler has some such views; as to the detail of them we are uninformed. We hope that in view of this recent publicity he will feel disposed to make known his views in a communication to the medical press.

In St. Louis Dr. W. C. Glasgow last year frequently called the attention of his professional friends to the fact that there was very prevalent a peculiar influenza. A number of physicians in the city, the writer among others, observed cases that amply confirmed Dr. Glasgow's opinion that an epidemic of a heretofore undescribed disease existed. We heard it alluded to as "catarrhal fever." We saw post-mortem examinations of several cases of a peculiar catarrhal pneumonia from which the patients had died at the St. Louis City Hospital. We believe there are enough clinical and possibly post-mortem data in the hands of one or two gentlemen in this city to make a valuable communication on the subject, and we would like to see it forthcoming.

The following is briefly the history of the first case of the kind that the writer ever saw, before he had heard anything of catarrhal fever or the new influenza:

Mr. P., æt. 40, good constitution and perfectly well, was seized with a severe coxyza. On the second day he sent for me. His temperature was 101° F. He complained of headache, but particularly of a lassitude that seemed to me out of all proportion to his other symptoms. On the third day, his wife met me at the door, very much distressed, stating that Mr. P. was out of his head, and weaker still. I found the temperature 100° F., the patient prostrated with a quiet and decidedly amusing, although to me at the time an alarming delirium. He complained of pain in the head, shortness of breath and a constricted feeling over the whole front of the thorax. I examined the lungs carefully every day. On the 6th or seventh day I found an area of slight dulness below the left scap-

ula and a subcrepitant rale. Within three or four days more there was a similar state of affairs in the right lung anteriorly, of less extent than that of the left. The temperature never rose above 101°. He was often very restless, the delirium continued over a week. He was never violent. I examined the urine frequently and carefully to find it normal.

He recovered completely in what seemed to me then a very short space of time. I did not understand the case until I heard later of the new influenza, of which, I have no doubt, it was an example.

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### Diagnosis of Tumors of the Corpora Quadrigemina.

Prof. Nothnagel, of Vienna, in speaking of the diagnostic symptoms of these tumors (*Med. Reg.*) laid special stress upon the early appearance of cerebral ataxia. This symptom was the first that appeared in each of the four cases of neoplasms involving the quadrigemina that had come under his observation. This ataxia is quite different from that dependent upon tabes. The patient staggers from side to side like a drunken man. The upper extremities are unaffected. This symptom together with impairment or paralysis of the motor nerves of both eyes point to the existence of a tumor of the corpora quadrigemina.

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### Advice to Physicians.

Dr. H. C. Harris, of Mississippi, contributes a little gratuitous advice to physicians, in the columns of the *Med. Age*, under the caption of "How to Choose a Doctor." Of course, Dr. Harris understands that the subscribers of the *Med. Age* are almost exclusively medical men who are "behind the scenes" and are fully able to judge of the qualifications of the professionsal brethern.

Many who have not read the admirable little book, "The Physician Himself" would get some useful hints by reading Dr. Harris' letter, as the advice in both is based upon good common sense.

Dr. Harris is right when he says "your doctor ought not to be a single man," but this places some young physicians in an embarrassing situation—they cannot get married until they have acquired a practice, and they can't get the practice till they are married.

All will admit that the acquisition of general information tends to broaden a physician's views and to keep him from developing into a crank upon some one subject; but I cannot agree with Dr. Harris when he says, "to know how to bud roses, graft fruit trees, mix strawberry pollen for improved berries, cure chicken pip, tinker a trunk lock, or put a clock in order, are much to a physician's credit." My observation has been that "A Jack at all trades is good at none."

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### The A. M. Association Meeting.

He who invites defeat is likely to be defeated. The meeting at Newport will not be what it should be unless it receives the support of the physicians in the East. It is very evident that the medical profession in Rhode Island are doing, and will continue to do, all in their power to make the meeting a success. Since the determination on the part of the Association at Cincinnati to make Newport its next meeting place, I have seen nothing whatever in the Eastern journals that was adverse to the interests of the Association. The leading journals have containad annoucements of the local committees, and it is highly probable that if the profession in the East is treated with the proper courtesy and respect by the other friends of the Association the Newport meeting will be a memorable one. It was gratifying to see that Dr. Hamilton's editorial in the Association Journal in which he charged that there were sitll those in the East who would gladly ruin the Association received no attention at the hands of the Eastern journals. The *St. Louis Med. and Surg. Jour.* does not properly regard the interest of the Association when it writes:

"But, after all, it is west of the Alleghanies that the Association has prospered. It is

from the Mississippi, Missouri and Ohio Valleys that it has derived its strength and it is in these sections that it will best prosper. The exotic atmosphere of the effete East cannot contribute to the healthy growth of so hardy a plant."

If the American Mecical Association is not a national organization then its name should be changed.

## "Traveling Physicians" in Ohio.

The *San. News* makes some pertinent remarks upon an act that is now pending before the Ohio legislature. Some of the members of this body seem not to be cognizant of the fact that to tax a man for doing a thing, gives him a lawful right to do it, provided he pays the tax. It is proposed that each "traveling physician" shall be made to pay into the state treasury the sum of one hundred dollars for each month that he prosecutes his business. The *News* says:

"Now it is perfectly plain that, if these doctors are dangerous to the public health, they should be prohibited from practscing altogether, and not taxed for the privilege of endangering health. Such a law recognizes a man's right to endanger health and life, if he be willing and can afford to pay the state for the opportunity of doing so.

## NEWS ITEMS.

Dr. F. A. Schmitt (*Daniel's Texas Med. Jour.*) reports five cases of diphtheria occurring in one family. Two of the patients were in a dying condition when he was called to see them on the fourth day of the disease. The three other children had the characteristic diphtheritic membrane on the tonsils, accompanied by the usual symptoms of the disease.

They were all three seen early in the course of the disease and all recovered.

The treatment consisted in applying to the throat, by means of a sponge probang, a mixture of equal parts of tr. chl. iron, chlorate potash and water. Ten drops of the same mixture, slightly diluted with glycerine were given internally every two hours.

The *Sanitary News* says that medical journals complain of ignorance on the part of the laity of the simplest laws of health, yet this ignorance is not so alarming as is the fact that the people will not practice what they know.

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We give in this number an article from the pen of Prof. Fournier on the much disputed question as to the manner of transmission of the poison in hereditary syphilis. No man who has syphilis should be permitted to marry till he has persistently and faithfully kept himself under the influence of mercury and iodide of potassium for at least twelve months after every vestige of the disease has disappeared.

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Hereafter physicians practicing in the State of Florida must make themselves thoroughly familiar with the symptoms of small-pox, yellow fever and cholera. Sections four and five of a law recently passed in that state read:

"It shall be the duty of every practicing or licensed physician in the State of Florida to report immediately to the president of the board of health, by telegram or in the most expiditious manner, every case of yellow fever, small pox or cholera that comes within his practice, such telegram to be paid for out of the funds to be provided for the expenses of said board of health.

Any practicing or licensed physician who shall fail to report to said president any such case, in the manner provided in the preceding section, shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined in a sum of not less than $100 nor more than $1,000, or by imprisonment in the county jail for not less than three nor more than six months."

A law should now be passed protecting physicians against suits for damages in the event suspicious cases reported to the Board of Health by them prove to be neither of the three diseases named.

Section twelve of the same act places a great deal of power in the hands of the

Assistant State Health Officer, and it seems to me, may give rise to differences between local and State authorities. It reads as follows:

"1. The State Board of Health shall have general supervision of the public health of Florida, and shall have the power to make, promulgate such rules and regulations as may be necessary for the preservation of the same. It shall be the duty of the State health officer, between the first of November and the first of May, of each and every year, and oftener, if deemed necessary by the board, to visit all the cities and towns or other points where two or more railroads meet, in the State of Florida, which in the judgment of the board it may be necessary for him to inspect, and to thoroughly investigate the sanitary conditions of said cities or towns; and he shall have the power and it shall be his duty to condemn in any of the said cities or towns any sidewalks, pavements, buildings, wharves, or other things that in his judgment shall be likely to produce or cause the spread of epidemic diseases; and he shall give notice to the mayor and council of such city or town, or other authority to repair, remove, cleanse or remedy the same within thirty-six hours, and if the same shall not be done as so required, it shall be his duty to have the same done himself, and the expense thereof shall be paid out of the health fund hereinafter provided and be afterward assessed a tax upon the assessable property of said city or town, to be assessed by the county assessor upon notification by the health officer of the amount, and collected by the county collector at the next annual assessment and collection thereafter, said amount so realized to be replaced in the health fund of the state by the proper authorities; Provided, a list and memorandum of property to be condemned shall be made and valuation place upon the same by three disinterested freeholders, one to be selected by said health officer, one to be selected by the owner of the property or his agent, and the third to be selected by the two freeholders already selected, before being condemned or destroyed, and the value of any private property that may be condemned and ordered to be destroyed by the health officer, shall be paid to the owner thereof out of any funds provided and appropriated for the expenses of the State board of health, upon the certificate of said health officer that said property was so destroyed, approved by the board of health and endorsed by the president of the board."

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A correspondent to the *Cleveland Med. Gaz.*, writes from Corea, Asia, that the natives seem to be degenerating from hereditary diseases. Large numbers are of a strumous diathesis, and iodide of potassium and mercury works wonders among them.

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The above correspondent, Dr. C. W. Power, also writes as follows:

"A very remarkable case of hermaphroditism came to my notice a few days ago. The patient was 12 years of age, intelligent, with a good appearance and a male voice; upon examination, I found a large vulva, with labia majora, and a penis between them. The penis was an inch and a half in length, regularly formed, except it had no meatus. It had a prepuce; below this was a vagina two inches in depth, and below the vagina and resting upon the perineum was found the urinary meatus; one testicle could be felt in each labia majora. The child and father were both eager for an operation, as the child was contemplating matrimony and was undecided which side to take. Another surgeon was called into consultation and we decided to desist until we discovered where the ejaculatory ducts opened, and then proceed with an operation and endeavor to make a urethra through the penis and transform the urinary passage.

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The editor of the *Med. Reg.* says that the new Marine Hospital Service law puts the tenure of office of its commissioned officers on the same basis as that of the Revenue Cutter Service, the Army or the Navy, which officers are practically secure in their tenure during life, and have been so secure for a

long period of time. But their commissions, one and all read "and to have and to hold such office during the pleasure of the President of the United States for the time being," which means that the President can remove Dr. Hamilton, or any other officer of the Marine Hospital Service "without reason assigned, recourse or appeal."

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A Cincinnati correspondent to the *Cleveland Med. Gaz.* writes:

"Dr. James T. Whittaker has been devoting much time to the subject of tuberculosis, and his writings on the subject, which are now going through the press, are awaited with impatience by many. In this essay the doctor will give an interesting history of the disease from aincient to modern times, and in his discussion arrives at the following conclusions:

That tubercle is a true zymotic disease of specific nature, in the same sense as typhoid fever, scarlet fever, typhus, etc.

That like these diseases, tubercle never originates spontaneously, but is perpetuated solely by the law of continuous succsssion.

That the tuberculous matter itself is (or includes) the specific morbific matter of the disease and constitutes the material by which in phthisis it is propagated from one to another and disseminated throughout society.

That the deposits of the matter are, therefore, of the nature of an eruption and bear the same relation to the disease, phthisis, as the fecal matter of typhoid fever.

That by the destruction of this matter on its issue from the body, by means of proper chemicals or otherwise, seconded by good sanitary conditions, there is reason to hope that we may eventually, and possibly at no distant time, rid ourselves of this fearful scourge. E. S. M.

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The *Boston Med. and Surg. Jour.* says:

"The Iowa City board of trade has prohibited the sale of Limburger on the ground that it is dangerous to the public health."

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Dr. Carr presented a patient to the Cincinnati Medical Society (*Lancet Clinic*) and stated that if the man had had a womb he would have diagnosed the case as one of hysteria. The nervous manifestations from which the patient suffers are somewaat unique. Ordinarily his nipples are soft, but under slight excitement they become firm and erect. He complained of pain in the nipples.

The term hysteria is applied to a nervous affection that is by no means confined to the female sex. Well-marked cases of it have been found to depend upon such a variety of causes that abnormal conditions of the uterus play a minor part in its etiology.

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Professor Donders is dead. He was one of the most distinguished oculists that ever lived. Only last year we had occasion to inform our readers of the high honors paid him on his retirement from the faculty of the University of Utretch. His works live after him.

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Dr. Wescott, of Chicago, says that the treatment *par excellence* of the complications of typhoid is prevenitive. This is best accomplished by keeping the patient quiet and comfortable, nourishing him and making him as aseptic as possible both inside and out. Inside by the administration of naphthol and naphthaline, and externally by means of antiseptic baths and a clean environment.

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Dr. C. O. Donovan, Jr., of Baltimore, reports a case (*Obstet. Gaz*) of hysteria, in which the patient's pulse beat one hundred and ninety-two times to the minute. He verified this several times and "found these numbers remarkably constant." This is certainly first class counting. Most of us reporting such a case have to content ourselves with saying that the pulse beats were about one hundred and ninety to the minute.

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Mr. Victor Horsely, one of the leading surgeons of England, strongly endorses Pasteur's treatment of hydrophobia.

## MEDICAL ITEMS.

Correction of Deformity Following Potts' Fracture.—At a recent meeting of the New York Academy of Medicine (*N. Y. Med. Jour.*) Dr. Robert Abbe presented plaster-casts of a man's leg, demonstrating the marked good effect obtained by surgical interference in a case of deformity following a Potts' fracture. Dr. Abbe had removed a piece of bone, half an inch in thickness, from the internal malleolus, refractured the fibula, and by using considerable force, succeeded in wrenching the joint into its normal position again.

Dr. McBurney said that in the immediate treatment of Potts' fracture, he considered it important to put the foot in a position of marked inversion, as in such case there is always a tendency to eversion. Dr. Abbe believes there is a tendency, in these cases, to a dislocation of the foot backward, and advised this be prevented by fixing it well forward in the dressing.

Linen Thread for Sutures and Ligatures.—At the meeting above referred to, Dr. Meyer reported that he had found linen thread, such as is sold in the dry goods shops, to be an excellent substitute for catgut and silk ligatures. He prepared it by winding it on a glass rod and soaking it for twelve hours in a one per cent solution of corrosive sublimate, and then to preserve it placed it in a one-to-one-thousand solution of the same. He used No. 40 for sutures, and for ligating small vessels, and No. 25 for tying arteries of larger caliber. The advantage claimed for the linen was that it could be more certainly rendered aseptic than could the catgut.

### Six Laparotomies on One Woman.

Prof. Frazolina (*Gaz. Med. di Torini*) has opened the abdominal cavity of one woman six times, the first being for the removal of a fibro-cystic tumor of the uterus. Since the last operation the patient has enjoyed good health.

## SOCIETY PROCEEDINGS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, March 13, 1889. The President, W. W. Keen, M.D., in the chair.

Dr. Mordecai Price.—I wish to exhibit a specimen of epithelioma just above the sigmoid flexure.

The patient had been suffering for six years with constant trouble with the bowels, and pain of a wandering character in the neighborhood of the sigmoid flexure. This commenced six or eight years ago. Five years ago obstruction began, and she could not have the bowels moved except she took purgatives, and only then when in a soluble condition. Small particles of feces were passed. Five weeks ago seemingly complete obstruction took place, and she had no movement for eleven days. Dr. Burns asked me to see her, and we decided to open her, although there was nothing but the complete obstruction to guide us. No tumor could be felt. The abdomen was opened, and we had to draw out two or three feet of the large bowel before we found the seat of obstruction. Then this epithelioma made its appearance. This was excised, and the ends of the bowel drawn into the incision and secured, the edges of the bowel which approximated each other being stitched in this position. Since the operation she has had constant movement of the bowel; injections into the rectum flow freely through from the wound. She is perfectly aware when the bowels are going to be opened. In a few days I shall put on a clamp, and when that has done its work I shall close the external wound. About four inches of the bowel, with a V-shaped piece of the mesentery, was removed, and five or six ligatures applied. Dr. Penrose, some time ago, removed eleven inches of the bowel, and afterward closed the artificial anus. The patient now has as good use of the bowel as before the operation.

Discussion.

Dr. C. B. Penrose.—The most important

point illustrated by this case, is the value of making a temporary artificial anus, in order to avoid the risks that follow immediate union of the intestine. In nearly all of the successful cases operated on for intestinal obstruction, this procedure has been adopted. In my own case, referred to by Dr. Price, operated on a year ago, twelve inches of the descending colon were removed, and an artificial anus made, which was subsequently closed without difficulty by means of Dupuytren's enterotome, a simple plastic operation. The woman is now perfectly well.

The immediate restoration of the continuity of the intestinal tract, after resection for obstruction, is dangerous for the following reasons: It delays the operation, and is a most difficult procedure on account of the distended and attenuated condition of the intestinal walls, and for this reason there is danger of subsequent leakage or rupture at the line of the sutures. There is also the danger of subsequent partial or complete obstruction from kinking at this line. In some cases the abdomen has had to be reopened to relieve this obstruction.

The formation of an artificial anus is a quick operation. It furnishes a free exit for accumulated flatus and feces, it adds nothing to the risks of the patient, and, when properly made, can be closed by a simple operation, and in the worst cases can be closed by resection and circular suturing.

Dr. Joseph Hoffman.—A point of interest in this case is the long duration. The average time in which cancer of this sort proves fatal is two and one-half years. The long duration would indicate that the disease could not have been cancerous from the start. It must have been a simple form of adenoma, which took on malignant change. These troubles offer a field for abdominal surgery, and, when once discovered, operation should not be postponed. I think that very few cases can be found that cover such a long period.

Dr. J. Price.—We all know that the mortality of intestinal obstruction is great. Treves states that two thousand deaths occur yearly from this cause in England alone, exclusive of hernia. The importance of promptitude in all abdominal work, particularly intestinal obstruction, cannot be too strongly insisted upon. Surgeons are conscious of the danger of delay, and some are even refusing to operate for the practitioner at the eleventh hour.

In these cases it is our duty to save life, and not to do an ideal operation. The attempt for years has been to do an ideal operation. If we save the life of the patient, we can do the ideal operation at some other time. In obstruction there is distention and paralysis of the bowel, and any attempt to bend it would be followed by breaking of the serous coat.

Operators experienced in abdominal surgery fully recognize the deleterious effects and the great danger of distention. The mere presence of an excess of fluid or gas in the intestine is, in itself, an efficient cause of obstruction. Just here I insist upon the importance of an artificial anus, for immediate relief, to be treated later. I would much rather incise the bowel, and thus favor the evacuation of gas and drainage of intestinal contents.

Dr. G. G. Davis.—Dr. M. Price stated that before he made the incision he had no idea where the obstruction was located. In Dr. Penrose's case the obstruction was ten inches from the anus. Some years ago I saw at the Pennsylvania Hospital a similar case. Here are three cases in which the obstruction was seated in the sigmoid flexure. The case which I saw occurred before we so readily resorted to abdominal section, and far more attempts were made to relieve the patient by means of injections, and rectal tubes, would enable the surgeon to judge whether the obstruction was low down or not. I think that it would be wise to make this attempt at a correct diagnosis.

Dr. J. M. Baldy.—I cannot see the force of the remarks just made. It simply refers to the question of differential diagnosis, which is one of the most difficult things in abdominal surgery. I have seen cases in which,

if bougies had reached the seat of disease, they would have perforated the gut. If a case has such serious symptoms as to call for operation, it makes little difference whether or not we know exactly what and where the lesion is. The quicker we open the abdomen and repair the damage the better we are off and the greater are the chonces of the patient.

Dr. Hoffman spoke of operating for, adenoma before it turned into a malignant growth. There again it comes to a question of differential diagnosis, which I do not believe can be made. The artificial anus, I think, certainly the ideal operation for these cases. They are in such a condition that the least delay may change the result. The sooner we have removed the obstruction, and get the patient back to bed, the better are their chances. There is plenty of time subsequently to restore the gut, and the patient is then better able to stand the operation.

Dr. Hoffman.—I did not mean to say that adenoma could be diagnosticated from malignant disease; I simply wished to show that the operation should not be postponed. The remarks of Dr. Davis are not exactly to the point, inasmuch as it is well known that cancer is most common in the sigmoid flexure. The majority of cases are in the sigmoid flexure, although the disease may appear in other localities.

Dr. John B. Deaver.—My experience with the examination of troubles in the sigmoid flexure with bougies has been unsatisfactory. The long mesentery allows the bowel to be so pushed out of place that you are not able to locate the trouble. In malignant disease, the use of bougies is liable to cause perforation, and do more harm than good. Treves has called attention to this fact. He has done away with the bougie for purposes of diagnosis.

Dr. John B. Roberts.—I was called in consultation to see a patient who for months has been suffering almost constant pain in the sigmoid region. I think, as also does the attending physician, that the man has malignant disease of the sigmoid flexure, although not sufficient to cause great obstruction. I recommended colotomy,with the object of relieving pain. The man is in good condition, but has some obscure brain lesion, possibly due to syphilis. The paper read to-night rather inclines me to ask whether Dr. Price would recommend abdominal section in preference to lumbar colotomy? Thus far the family has, however, declined all operative procedures.

Dr. Joseph Price.—In Dr. Roberts' case he locates the disease at the sigmoid flexure. In the case reported to-night, the diagnosis was simply intestinal obstruction. It was impossible to say where it was located. Where the diagnosis is malignant disease of the sigmoid, you have a different problem. In Dr. Roberts' case I should rather signoie or lumbar colotomy; done simply to prolong life and relieve suffering.

Dr. G. G. Davis.—I agree with Dr. Baldy, that to use a bougie in a distended bowel would be dangerous, but in these cases you approach the disease from below, while the distention is above the seat of disease. As a rule, in these cases the disease is not of the class seen lower in the bowel. It is not that ulcerating form that eats into the mucous membrane, causing hemorrhages and sloughing of the tissues. While I do not doubt that it is justifiable to operate on a diagnosis of intestinal obstruction, yet I think that we should attempt to make an exact diagnosis when it can be done without danger to the patient.

Dr. J. M. Baldy.—The remarks of Dr. Davis may apply very nicely to the specimen before us. That case might not have been perforated, but there are plenty of cases that might have been. I am willing to stand on the platform on which the doctor has rather sarcastically put me, viz.: "That one need only make a diagnosis of intestinal obstruction to justify operation." If the case does not yield in twelve hours to rectal injections, pertistently but gently applied, the knife is always demanded. Early operation is our only chance of lessening the terrible mortality of intestinal obstruction.

Dr. M. Price.—I have no doubt that this was an epithelioma from the start. Epithelioma is a slow growth in other parts, why should it not be so here? I have another case, in which the disease is four or five inches within the rectum, but in which there were no symptoms save obstruction. The use of the bougie would have given no information.

The President.—The Chair would call attention to one point incidentally alluded to in the discussion, that is, the desirability of greater rapidity of operating. A couple of important papers have been lately published advocating greater rapidity in all surgical operations; one by Dr. Cheever, of Boston, read at the last meeting of the American Surgical Association, and the other by Mr. Christopher Heath, just published in the Londot *Lancet.*

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## SELECTIONS.

### THE TREATMENT OF SPASMODIC CROUP WITH OPIUM.

BY ARTHUR V. MEIGS, M. D., PHILADELPHIA.

By the term spasmodic croup I have meant to designate all forms of the disease characterized by the absence of false membrane, whether supposed to be simply spasmodic, inflammatory or catarrhal, and my desire is to raise the question of what constitutes proper treatment, for the subject is one upon which my own views are very definite. Though the disease, only in the rarest instances, endangers life, and from that standpoint is not of much consequence, yet it is so very common and causes so much suffering that by proper treatment can, in most instances, be so readily prevented or relieved, that it is well worth our careful attention and consideration. The method of treatment I have always persued was for many years used by the late Dr. J. Forsyth Meigs, and is described in Meigs and Pepper on *The Diseases of Children.*

It may be premised, in the first place, that in all severe cases the treatment must be begun by the administration of an emetic, and for this purpose, if it be necessary to have a prompt result, nothing will be found better than a teaspoonful of powdered alum mixed with a teaspoonful of syrup of ipecac. If emesis does not occur in ten, or at the outside fifteen minutes, the dose may be repeated; the second, however, will not often be necessary. This is much better, if it seems desirable that an immediate result be attained than any other of the emetics—ipecac alone, sulphate of zinc, or any of the preparations containing antimony. The latter I have always looked upon as unnecessary or even dangerous on account of the severity of their effects, though I confess that my personal experience with them has been of the most limited description: I have heard older members of the profession say that in former days, when it was the custom to administer Coxe's hive syrup or antimonial wine in large doses and to place children in a warm bath, they had frequently seen them die of the complaint, and anyone who has read the letters of Gui Patin, who lived in the reign of Louis XIV., and at a time when almost a crusade was being preached by the physicians of France against the drug on account of the manner it was abused, will realize how much mischief it is capable of doing when injudiciously prescribed. For my part, I am satisfied that any results to be had by its administration in croup can be obtained better, and much more safely, by other means.

The effects of most emetics in children, it must always be remembered, are sooner over and less severe than in adults, and, therefore, their use is often proper when it would be inadvisable to give them to older people. When the question is to be answered, in any case of croup, whether or not to give an emetic, the decision is not so important, for its administration can hardly do any injury unless antimony be used. I have seen a young child, within half an hour after emesis, sit up and eat hungrily.

Alum and ipecac, given as has been rec-

ommended, act with great promptness, have the most marked effect in relaxing the laryngeal spasm, and contrary to what is very commonly said of their combined use, produce very little physical exhaustion and relaxation afterward.

When summoned to a case the first question the physician must ask himself and decide is, whether the indications are such as call for the administration of an emetic. This question must be answered by considering the matter of dyspnea—if there be no dyspnea emetics seem to me entirely unnecessary, nor do I give one if there be merely a hoarse voice and slightly noisy respiration without real difficulty of breathing. It is only when there is decided obstruction of respiration and retraction of the base of the chest and spura-sternal fossa that emesis is to be at once induced.

If it be decided that an emetic is unnecessary then something else must be done. It is to be understood that I am now discussing the treatment just as I should if I had been called in the middle or early part of the night probably, to see a child that had been seized, without previous warning, with a paroxysm of the disease. Having decided that the symptoms were not sufficiently urgent to make the administration of an emetic necessary I should order a dose of laudanum and ipecac, and at the same time give directions for a second dose if the first did not in the course of an hour produce a marked calming effect. By the judicious use of an opiate with ipecac if the case be not so severe as to demand the immediate and somewhat more violent action of an emetic, in my experience the spasm of croup can be better combated than by any other means I have ever tried, and when once a physician and a judicious mother have combinedly learned to manage spasmodic croup in this way the disease, except when it occurs in its most violent forms, loses almost all its terrors in a household. Absolute perfection, of course, is not to be attained; and this holds true of our power of judgment of the precise dose of medicine to be given in any particular case of disease. But what is to be aimed at in croup isto give such an amount of laudanum as will produce a moderate but decided sporific effect without narcosis, and ipecac to relax spasm but not nauseate, and especially not to induce emesis. This end would be attained in adults ordinarily by giving about twenty drops of laudanum with fifteen of syrup of directsons.that y second dose to consist of ten to fifteen drops of laudanum with ten or fifteen of ipecac syrup be given after an hour, or laterdur-ing the night if it should seem necessary.In children,of course, and is it only in children, practically speaking, that we ever meet the disease, the dose must be made less according to the age. I mention the doses which would be proper for adults merely as illustrating the therapeutic effect that it is my aim to attain, for the amounts of laudanum mentioned could with perfect propriety and safety be given to most adults.

In using this method of treatment of croup it is, of course, a great advantage both to the physician and patient, if the physician already knows from previous experience with the child, the exact quantity of laudanum and ipecac he will have to take to effect the purpose. In administering laudanum to any child thai has never previously taken it, no one should ever do otherwise than begin with a mininum dose, and this too at the risk of failing to thoroughly produce an effect, because the event will prove the dose to have been too small for the particular individual. For a child two years old, the initial dose should not be more than two drops of laudanum with ten of ipecac syrup; this to be repeated after an hour, or any time later if necessary. By waiting an hour, a second dose can always, in my experience, be given with entire safety, for if the first has produced no decided effect in that length of time, the second will not produce too much. For an infant of two to six months the first dose, to keep properly within the line of safety, should be half a drop with five or six of ipecac syrup, this to be repeated in an hour if the first be insufficient. In older children the dose must be proportionately larger, and the

precise amount to be given is very much a matter of individual judgment, for it is difficult to formulate a precise rule which can be held to rigidly at the moment of emergency.

It is a good plan often, when the case is a severe one, and an emetic has been judged necessary, after its action to wait half an hour, and then give one or two doses of laudanum without ipecac, to induce sleep and relax spasm. This seems often to prevent the recurrence of the attack toward morning, which is likely to take place if the emetic alone be relied upon.

The first night having thus been tided over, a moderate amount of opiate under all ordinary circumstances having been used, and an emetic given if needed, it becomes a question what is to be done next. Is the disease cured, and no further medication required, or does the condition of the child require further attention? Although in the majority of cases of spasmodic croup, by the time morning comes the child will have lost his hoarseness and fever, and will seem often as well as if nothing at all had happened, playing about cheerfully during most of the day if allowed, the disease generally, if left without treatment, returns a second, and even a third night, and the condition of the patient will often be more threatening with the return than it was at the onset. Here then certainly is an opportunity which promises much for preventive medicine, the branch of therapeutics which it is generally thought will effect the best that can ever be done by the science of medicine.

Knowing that the trouble is likely to return, the child should be kept in bed the following day, and given every two hours minute doses of paregoric and ipecac, to which nitre may be added if there be fever. The doses should be so small as to be very gently relaxing, but the amount of opiate too little to induce any sleepiness, and that of ipecac to take away appetite, much less produce any nausea. This result will be most nearly attained in children between two and five years of age by the use of from five to ten drops of paregoric, and about five of ipecac syrup. As much as ten drops of the ipecac, and it is an amount I have very commonly seen given, is sufficient, when administered every two hours, to nauseate many children, and then the remedy becomes worse than the very disease itself, for nothing is so depressing to the general strength and vitality, and natural powers of resistance to disease, as long-continued nausea.

The child having, as already recommended been kept in bed during the day, when the second night comes laudanum and ipecac should again be given at bedtime, with directions for a second dose if it seems necessary. To say bedtime is, perhaps, not so precise as is to be desired, but the proper time for the first dose is between six and nine in the evening, when the child is tucked in bed to sleep for the night. The doses should be such as already mentioned, unless it be judged that those given the night before were too small, in which case the amount may be increased to such an extent as seems advisable, the previous night's experience having given us a guide to the child's susceptibility to the drugs. During the second day also, the child should almost always be kept in bed, and the minute doses of paregoric and ipecac continued every two hours, and the laudanum with ipecac at bedtime again administered. After the third night, unless the case be one of unusual severity, the cough will become loose, and when this is the case there is no longer any likelihood of a return of spasm. In my own experience it has seldom happened, and then only in cases of great severity, that I have found it necessary to administer an emetic after the first night, though I am sure that if cases be left without treatment, the spasmodic symptoms are apt to be more violent the second or third nights than they were the first. Knowing that the trouble is likely to return, and having learned something of the individual child's susceptibility to opium and ipecac, it is much easier to prescribe, both with safety and confidence in ourselves, such a dose as will prevent the return of violent spasm, and this, it should be thoroughly understood, does not require the administration

of any large dose of laudanum. As already stated, the effort should be to give such a dose as well produce an effect parallel to that of twenty drops of laudanum upon an average adult, and it is always both safer and better to err upon the side of giving too little than too much. One difficulty that very commonly has to be met, is that on the day following an attack, if the child be at all feverish, the appetite will generally be very poor, or abolished, and this will naturally be attributed by anxious mothers to the medicine that was given; but if it be explained that it is due to the cold and the accompanying fever, there will usually be no trouble in having the treatment continued.

The treatment of the disease after the spasmodic symptoms have passed off it is not necessary for me here to discuss, for it must be that of coryza, or bronchitis, or both, according as the inflammatory process which had its origin in the larynx travels upward or downward, or in both directions, for it is sufficiently well known that an attack of spasmodic croup is almost always followed by, or perhaps more properly is, the first symptom of a cold of some sort.

It will not be amiss for me now to give a few quotations to show that I am not alone in the opinion expressed in regard both to the great value of opium in children's diseases and its entire safety when properly used.

In Meigs and Pepper on The Diseases of Children, as I have already said, opium is highly recommended as most valuable in cases of spasmodic laryngitis.

The following quotation is taken from West on The Diseases of Children, page 31:

"A third great remedy in the diseases of early life is opium in its various preparations; and with it may be classed, though separated by a wide interval, other sedatives. * * * Perhaps no remedies are so often needed in the diseases of early life as sedatives, for at no other age is the nervous system so easily disturbed. At the same time the susceptibility to the action of narcotics and sedatives is so remarkable, and the evils which result from their unnecessary employment, or from their administration in excessive doses, are so serious that some practitioners altogether abstain from their use. To do so, however, is to deprive ourselves of one of the most important classes of remedies, and of one for which no substitute can be devised."

Goodhart, on The Diseases of Children (edited by Starr), page 25, expresses the view that the dangers of the administration of opium to children are overestimated, but says that the initial dose should always be a small one.

Eustace Smith, in his book on Diseases in Children, page 19, says:

"Opium, it is well known, should be given with caution. The remedy is, however, of extreme value, and if care be taken to begin with only a small quantity, and to postpone a second dose until the effect of the first has been ascertained, no ill effects can possibly be produced by the narcotic."

Again, in his Clinical Studies of Diseases in Children, the same author in speaking of the use of the drug, at page 18, says:

"It is, however, a medicine which is of especial value in the treatment of the diseases of infancy, and may be given without fear if care be taken not to repeat the dose too frequently."

Having now described the method of treatment which in my hands has proved so efficacious, and up to the present time so free from danger, and by the above quotations having shown that some of the most highly considered and widely quoted authorities are of the same opinion in regard to the use of opium that I have myself expressed, I have only two things to add:

First, my opinion that an unusual susceptibility to the influence of the drug in children is not common, no more so than it is in adults, among whom, when it exists, it is called an idiosyncrasy, so rare is it. The reason that the use of the drug has had a bad name among physicians is because the initial dose given has so often been too great and not because the idiosyncrasy is common. The truth of this statement is borne out by the fact that

so many of the authorities upon questions of diseases of children, and presumably the acknowled authorities, are those who have had the largest experience and are, therefore, best qualified to judge, recommend the administration of opium as both valuable and safe. Most important of all, perhaps, for us to remember in coming to a decision whether or not we shall deny ourselves the use of the drug in treating the diseases of childhood, is the fact that even in those rare instances in which the idiosyncrasy does exist it is almost impossible, if the initial dose given be a sufficiently small one, that it should cause death. The usual result is that the child is slightly narcotized—made to sleep somewhat heavily—and the parents and physician are frightened lest worse should come of it. Shall we on this account deny our patients the many advantages to be derived from the administration of a drug, the use of which will only be dangerous owing to our own lack of care?

Finally, it is quite incomprehensible to me why the use of opium should be decried when children, even the youngest, are freely given many other drugs which are confessedly much more dangerous, and the effects of which it is much more difficult to observe and control—as, for instance, chloral, aconite, antimony, arsenic and belladonna. The last mentioned of these, belladonna, is a drug of which common report says children can take much larger doses relatively than adults, and yet it is the only one with which, up to the present time, I have ever in my own practice had any untoward effects among children. Some years ago I prescribed a cough medicine containing alum and half a drop of tincture of belladonna to the dose for two children, aged respectively about three and five years. Two or three doses of this medicine were to be given an hour or more apart; the first when they went to bed and the others afterward if they did not sleep. In the middle of the night I was summoned to the house to find that two doses had been given to each child, and that the younger was in a sound sleep, more quiet and natural than she had enjoyed for many nights owing to the troublesome cough which had existed, while the older child was sitting up in bed wide awake, with the pupils somewhat dilated, and the chest covered with a red rash. After watching the case for a time I assured the mother that no harm would come of it, and the next day the child was as well as ever. This certainly was a marked instance of idiosyncrasy, for in the younger child the therapeutic effect was exactly what had been sought for, while in the older I had to deal with a mild case of belladonna poisoning. It was also a marked instance of what generally happens, if perchance a properly small dose of any powerful drug is given to a person who proves unusually susceptible to its influence, and it is that the effects are much greater than was desired, but in nowise dangerous and hardly very alarming.

It is unlikely that by my imperfect exposition of my views upon this subject I shall have persuaded anyone whose mind was already made up to the contrary, to come over to my side of the question, though it may be perhaps that those already of my opinion or in doubt about the matter, will be strengthened to pursue the method of treatment more boldly, or to try it. It is certain, however, that discussion of a subject has its good effects by causing opinion to crystallize more and more in the direction of the truth, and in this manner, at least, I trust my efforts will not have been entirely in vain.

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## THE DIAGNOSTIC SIGNIFICANCE OF TREMOR.

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Tremor may be general or local, that is, it may embrace the whole muscular system, as the mercurial tremor; or it may be confined to certain groups of muscles, as in atrophic affections; or be limited to a single member, as the tongue or lips. The distinction of convulsive and paralytic tremor is a very old one, running back, in fact, to the time of Ga-

len. The former, which persists during repose, was supposed by Van Swieten to be due to an irritative lesion, while the latter, which is seen only on the occasion of voluntary movement, was attributed to a deficit of the normal stimulus. The older theory of Spring and others, that tremor was due to some alteration in the tissue and contractility of muscle, has been displaced and disproved by the experiments made some years ago by Charcot and Vulpian, which showed conclusively that, in most cases at least, tremor is due to central nervous influence. As Romberg puts it, tremor is the bridge which unites spasmodic and paralytic affections.

As we know, muscular contraction is brought about, not by a single stimulus, but by repeated, successive stimuli, the summation of these giving what is known as physiological tetanus. Now, to produce this condition it is necessary that these stimuli exceed thirty-two per second. When a normal muscle contracts these rapid stimuli run together, as it were, and give a steady movement, and the individual stimuli cannot be appreciated except by applying the stethoscope to a contracted muscle, when the humming bruit can be distinctly recognized. This principle is, of course, the well-known one of the rapid vibration, as of the waves of light or sound, giving a continuous picture or note. When a wheel is revolving rapidly we cannot discern the individual spokes, but as soon as the velocity falls below a certain number of revolutions they become visible; so, when the stimuli to a muscle fall below thirty-two, we begin to recognize each individual stimulus in its resulting contraction. Now, in such diseases as paralysis agitans, multiple sclerosis, mercurial tremor, and the like, the number of contractions—for, of course, tremor is nothing more than successive contractions and relaxations—has been shown by Brouardel, Marey, Gowers, and others, to reach only six or seven per second. So that in certain affections, when the conducting motor-tracts are affected, as, for example, in disseminated sclerosis, it becomes evident that the cortical motor discharge is not properly conducted—is interrupted in precisely the same way as an electric current might be. This same thing is well shown in the fibrillary contractions of many atrophic diseases, where certain parts of the same muscle, or one muscle in a group, will receive its proper stimulus, and instead of the steady tonic condition, it is alternately contracting and relaxing. We should bear in mind,in considering the subject of tremor,the fact of muscle tonus. In certain affections there is seen a want of co-ordination, a destruction of equilibrium between antagonistic muscles, and as a result a tremor. While, as has been said, we may make a distinction between the convulsive and the paralytic tremor, as shown by the application of some stimulus such as an electric current, which exaggerates the former and diminishes the latter; still, in the great majority of cases, tremor is of paralytic origin. Before taking up the individual tremors, the following classification, which has been somewhat modified from that given in the excellent treatise of Axenfeld and Huchard, may make the subject clearer.

Tremors may be divided into the acute, embracing those produced by *a*, cold; *b*, fright, anger, or great emotion; *c*, adynamic fevers.

It will not be necessary to describe any of these acute forms, but they should be borne in mind in making a diagnosis. Nervous females, especially when being examined by a physician, show often in a marked degree this acute tremor. The chronic form include: *a*, Cerebral or spinal lesions, such as primary lateral sclerosis, disseminated sclerosis, ataxic lateral sclerosis, post-hemiplegic affections, bulbar paralysis, general paralysis, myelitis, by compression especially, and certain forms of chronic meningitis; *b*, lesions of nerves and muscles, as neuritis and muscular atrophies; *c*, metallic poisons, as mercury, lead, arsenic, along with which may be classed the tremor of syphilis, alcohol, tea and coffee,and tobacco; *d*, certain affections, the pathology of which is not understood, paralysis agitans, hysteria, exophthalmic goitre,athetosis, senile and hereditary tremors, and a certain form

described as simple tremors, and chorea. Of course, a great number of these forms need not be discussed, and are mentioned only to make the list complete.

1. Disseminated Sclerosis.—Of cerebro-spinal lesions, disseminated sclerosis, sclerose en plaques of the French writers, presents most prominently tremor as a marked and constant symptom. The first thing noticed in regard to the tremor of this affection is that it exists only upon some voluntary movement. If the patient be lying in bed no tremor whatever is observed. When sitting in a chair, tremor of the legs may be seen. Certain movements involving only very limited play of the muscles, as for example in buttoning the clothes, may be performed, and the attending tremor is not very marked—is fine. When, however, the movement requires more extensive exercise of the muscles, through a large arc, then the tremor becomes very decided and characteristic. If the patient be required to raise a glass quite filled with water from the table to the lips, at first the tremor is rather slight, but as the effort is continued it becomes more and more intense. It is rhythmical in nature, the glass being moved toward the mouth and withdrawn in a regularly intermittent manner. The direction is not lost as in chorea, but the glass approaches nearer and nearer the lips, until finally it is struck violently against the teeth and the water spilled. When a patient in whom this disease is pronounced attempts to walk, the limbs, trunk, and head all partake of this tremor. It is true that certain cases have been observed in which the tremor persisted to some degree when the patient was at rest, but such cases are very rare, and can easily be explained by the very wide distribution of the pathological process in the disease. The tremor of disseminated sclerosis is usually an early symptom, though it occasionally appears after the disease has become established. Toward the termination of the malady the tremor often disappears almost entirely. The scanning speech will be noted farther on.

2. General Paralysis.—Here the tremor is confined in the early stages of the disease to the muscles of the face and the tongue. The tremor is not general, but limited to certain muscles or even to parts of a muscle, giving the well-known fibrillary tremor. This is well seen in the tongue, which has in addition a general tremulousness of its entire structure, so that its movements are very uncertain and inco-ordinate. In the latter stages of the disease there is a tremulousness attendant upon any movement, which is seen in the whole member moved, together with the rapid fibrillary twitching of portions of muscle. On the whole, the tremor of general paralysis is not specially characteristic, except so far as it effects the muscles of articulation. The difference between the tremulous, indistinct,uncertain utterances of a general paretic contrasts sharply with the regular, spaced, scanning speech of a patient with disseminated sclerosis. Of the other brain and cord lesions which may give rise to tremor, it is not necessary to speak specially. In none of them does the tremor exist as a characteristic and diagnostic symptom. The remarks apply to the various forms of neuritis and muscular atrophies, in which later fibrillary tremor is well marked.

Turning now to certain affections the pathology of which is either unknown or inconstant, the one in which tremor is most characteristic is,

3. Paralysis Agitans, or Parkinson's Disease.—Of all the diseases mentioned in the foregoing table this one presents the most marked, persistent, and diagnostic tremor. The tremor in this affection is fine,that is, the arc of movement is a short one. At first it is confined to one member, but as the disease advances it becomes more general. The movements are regular and more or less rapid, the favorite seat being the hand. Here the movement of the thumb against the other fingers has been compared to that observed in rolling a pencil between these fingers, or rolling pills. The handwriting, which in disseminated sclerosis is irregular and angular, and in general paralysis is distorted and full of omissions, in paralysis agitans is character

ized by the lines being finely sinuous. In the earlier stages of the disease this is appreciable only by means of a lens. A distinguishing feature of the tremor in this affection is that it exists only during a state of repose. If a patient whose hand is continually agitated attempts to grasp some object, the tremor in large part disappears, or at least is not increased. While, as has been said, the tremor usually begins in one member, it may affect all four, or it may take a hemiplegic form. A fact to be noted is that it spares the head.

4. Senile Tremor.—Very closely connected with the last mentioned affection is the tremor often seen in advanced age. Its favorite seat, differing greatly in this respect from paralysis agitans, is the head and neck, giving rise to the frequently observed nodding motion. At first this tremor seems to be lessened when the parts affected are at rest, but later in the disease it becomes continuous and widespread. It is solely a disease of very advanced age, excepting of course certain cases which occur in persons who have all the evidences of extreme old age except the years. It varies in degree from that slight tremor and want of co-ordination which always accompanies a burden of years, to a more marked and continuous rhythmical tremor, resembling paralysis agitans in almost every respect save that in that disease the head is free.

5. Exophthalmic Goitre, or Basedow's disease, presents a very characteristic tremor, which was noted only a few years ago and has since been carefully studied by Marie. It is a fine tremor, a vibration, which affects not one member, but the whole body. If the patient is erect, by placing the hands on the shoulders or the head this vibration is quite perceptible. The tremor varies considerably in different cases, but is nearly always present if care fully looked for, and is very often a very prominent feature.

6. Choreiform Movements.—In ordinary chorea there is no defined tremor. The movements are extremely irregular, persisting during rest, and very greatly exaggerated in voluntary movement. In striking contrast with disseminated sclerosis, the choreic patient in attempting to put a glass of water to the lips makes a number of wild, irregular movements, without the slow advance to the end aimed at in the other disease. In many cases, however, chorea assumes a rhythmic form; and then is apt to be confounded with other forms of tremor. Still, close attention to the irregularities of the intentional movements, as well as the fact that the tremor, or more exactly the spasmodic movement, exists during rest, will lead to a correct diagnosis. Some of the uncommon forms of chorea, such as the hereditary form described by Huntingdon, and the various pre-and post-hemiplegie forms, present a more distinct trembling. To the same category belongs athetosis, where the constant polyp-like movements are limited to the fingers and toes.

7. Hysterical Tremor.—The movement observed in hysteria are as various and simulating as the other symptoms of this disease. The tremor may be limited to one side, hemiplegic in form, or may be general. It may consist of a fine tremor, continuous but much increased by movements, or it may show a violent convulsive discharge. A characteristic feature of the tremor is its irregularity. For a time the movements may go on with almost the regular rhythm of paralysis agitans, when suddenly they will be replaced by violent convulsive movements. There is at present under my care a young woman who presents a most marked hysterical tremor. All four limbs are agitated by a tremor of rather wide range, coarser than that of paralysis agitans, and rather more rapid. Any excitement, or any movement will intensify greatly the tremor. If she attempts to put her feet to the ground at once the regular movement is transformed into a very violent convulsive form, almost resembling spinal epilepsy. Choreiform movements are often met with in hysteria, and should not be confounded with that disease.

8. There is a curious and rare form of tremor which, for want of a better name, or

because it is the sole symptom, is known as simple tremor. It affects young or middle-aged persons and is generally confined to the hands, lips or tongue. Usually it ceases during rest and is aggravated during movement, though to a considerable extent under control of the will. It is a fine tremor, and rather rapid. A number of cases of this simple or nervous tremor have been described, showing a marked hereditary tendency. It has no special ill effects on the health of the persons affected, but is very resistant to any forms of treatment, and often continues during life.

9. One of the prominent symptoms of chronic poisoning by certain metals is tremor. Of the metals occasioning such tremor, the most notable is mercury. Poisoning by this substance is met with occasionally after long-continued therapeutic administration, either taken internally, by inunction, and especially by the vapor bath, but most frequently by artisans who use the metal or who prepare it for commerce. The tremor usually commences in the face or arms, and gradually invades the trunk and lower extremities. At first it is present only on voluntary movement, but soon persists during repose, and in extreme cases even during sleep. It resembles the tremor of desseminated sclerosis, though less extended. Generally the character of the tremor would be represented by a mean between disseminated sclerosis and paralysis agitans. As the disease advances the the tremor becomes more violent and convulsive. In chronic lead poisoning tremor is an inconstant symptom, generally limited to the face or hands. It is a fine tremor, resembling senile tremor, and is worse after exertion, when the muscles are exhausted. Slight tremors are sometimes observed in cases of chronic poisoning by other metals, but they are not worthy of special mention.

10. Alcoholic Tremor is met with, as has been said, in acute alcoholism. In this case it presents the form of a moderately fine tremor, most marked in the face and hands, but seen also in the lower extremities. It is exaggerated on movement, becoming faint or entirely disappearing if the patient can be quiet. A distinctive feature of the tremor of acute alcoholism is its tendency to become general, so that when the hand is placed on any part of the patient, a trembling can be felt which runs through the whole body. Very often, in fact almost always, this tremor increases in intensity until it becomes convulsive. The tremor of chronic alcoholism is in many respects similar to the slighter acute forms. It attacks almost exclusively the face, especially the lips and tongue, and the hands. It is a fine tremor, and with it is associated fibrillary contractions of the muscles, so that the picture presented is very like that of general paralysis. Fournier has described a syphilitic tremor, appearing with the secondary symptoms of that disease, but it can hardly be called distinctive.

The foregoing forms of tremor have been selected and dwelt upon because they are characteristic, and in many instances diagnostic. It should be borne in mind, as noted above, that tremor may occur in many other affections as a complicating or transitory symptom. Notably is this the case in brain and cord lesions. Whenever the motor tract is invaded, then we may have tremor. Also in all the many forms of hysteria, tremor is a very frequent symptom.

General Diagnosis.—When a case presents itself in which tremor is a constant symptom, the first thing to be noted is its extent, whether it is general or local; whether it affects a whole limb, a group of muscles, one muscle, or simply certain fibres of muscle. Then, as to whether it is continuous or occasioned only by voluntary movement; whether it lessens or increases as the muscles become tired, or if it ceases altogether when perfect rest to the affected part is induced. As to the nature of movements, it should be noted whether they are regular and rhythmical, or jerky and interrupted, and the number per second should be counted. The patient should be made to extend the arms with the fingers separated, for in this way the finer movements can be seen. Often, when one is not certain about the presence or absence of

tremor, if the observer's hand is pressed lightly against the tips of the extended fingers of the patient the vibrations can be felt. One of the simplest and best tests of many forms of tremor is to ask the patient to raise a glass filled to the brim with water, from the table to his lips, or to use a spoon as in eating. If possible tracings should be made, which can be easily done by means of the modified instrument of Marey. The lower extremities should be tested in various ways, and the peculiarities of the gait noted. By careful attention to these details one is often enabled to correctly diagnose certain obscure affections in which tremor is a significant symptom.

## SYPHILIS BY CONCEPTION.

BY PROF. A. FOURNIER, M. D.

Translated by E. Dogenais, M.D.

Professor Fournier (in *L'Union Medicale*), whose teaching is always as clear as useful, took this important question, syphilis by conception, at his clinical lessons. It is a mode of contamination by syphilis which presents a practical interest so much greater that we should derive important prophylactic precaution. Young women recently married are especially the ones who suffer from syphilis in this manner. It generally happens thus: A young girl, pure and sound, marries a man who has already had syphilis incompletely treated. She becomes *enciente*, and soon presents the manifest accidents of syphilis—specific roseola, mucous plaques, headache, alopecia. The consulted physician looks for the initial accident, the chancre. In spite of a minute and complete examination he finds none. Not only the cancre cannot be discovered, but its habitual companion, the bubo, does not exist. There is not even any adenopathic syphilitic vestiges. In spite of these facts she is manifesty syphilitic. The physician astonished at not finding the chancre expects that he will find the lesion which caused the infection on the husband. New surprise, the examination of the husband reveals no recent specific manifestations. The husband, being told of the dangers of a possible contamination, affirms that since his marriage he has watched himself attentively, and that he has not perceived the least redness or the slightest erosion. The complete examination of the subject is negative.

Thus, we have a woman who took syphilis from a man having present no symptoms capable of giving syphilis. It is a complete derogation to the usual laws of syphilis. If these facts were exceptional we should dismiss them as doubtful, but they are met frequently enough, not in the hospital, but in city practice where they are better observed and are easily followed up when we are in the presence of such a case; and when we interrogate the woman we learn that she is either pregnant, that she has been pregnant, or has just had a miscarraige. It is then legitimate to suppose that she has been infected by the fetus. The supposition is further strengthened as the child is born syphilitic. So, in cases of this nature, the destiny of this child is lamentable. From 22 cases of syphilis by conception, observed by Diday, 15 times the pregnancy was interrupted by a miscarraige, seven times the fetus was born at full time, or nearly so, but was either dead or died soon after birth, showing syphilitic manifestations. These figures are confirmed by Prof. Fournier's statistics.

The syphilis of the child is then constant; as the mother's it is an abnormal syphilis without primary period. The woman did not get it from her husband or another man, for we conceive that with her contamination has taken place by the immediate contact during several weeks with a syphilitic subject, the fetus. Nothing astonishing that a woman should be affected by that center of syphilis that she carries in her abdomen.

Let us see now, whether this theory of the infection of the mother by the fetus during its intra-uterine life, is in contradiction with the recent researches on the passage of microbes through the placenta. Let us find out if the theory of this sudden attack of syphilis is due to the possible transmissions through the placenta, is not, on the contrary, support-

ed by the new information of science on infectious diseases.

At first we know that a number of diseases are transmitted from the mother to the child through the placenta, as variola, measles and scarlet fever. Amongst the diseases of microbes well demonstrated that enter into this list, we must mention acute septicemia and experimental chicken cholera.

It was thought a few years ago that the placenta constituted a perfect filter, which sifted all pathogenic microbes; bnt it is not so.

The remarkable experiments of Straus and Chamberland have demonstrated that the placenta let certain microbes pass. They have demonstrated that the bacteria of anthrax (charbon) could be found in the blood of the fetus. We then admit certain diseases are transmissible from the mother to the child through the placenta..

Syphilis long ago has given a clinical proof. So a sound woman becomes pregnant from a sound man—indemnity of syphilis. The child is born syphilitic. It is then certain that it is through the intermediary of the placenta that the fetus received syphilis from its mother. We readily admit these phenomena of exosmose concerning the placenta. Why not admit the reverse or infection by endosmose, if, by the placenta, syphilis may be transmitted from the mother to the fetus; why, inversely the same infection could not be transmitted from the child to the mother?

There is one more reason which pleads in favor of the possibility of the transmission of the syphilis from the fetus to the mother by the placenta. It is that the mother's syphilis presents then the same form as the syphilis of the fetus, which in its turn got it from its mother. In both cases, it is a syphilis decapitated, without initial accident, without primary period, "*une syphilis generale d'emblee.*" This similarity of form of the two syphilists confirms the identity of the mode of introduction of the virulent agent.

Bacteriology and experimental pathology are in favor of this theory of syphilis through conception. We know, to-day, that the effects of viruses differ greatly; that they give rise to symptoms very different, according to their mode of penetration. For example, the charbon (anthrax) if it is inoculated on the skin of the animal, will determine a true charbon—terrible, mortal. If the injection is made in the blood, instead of reproducing the charbon, we, on the contrary, establish immunity by the vaccination charbonneuse. Does it not result from these experiments, which have not been contradicted, that similar effects produced by the same virus, under different circumstances, duplicate identity of penetration. When a fetus outside of all paternal influence contracts syphilis in utero, which has made its appearance on the mother only after her conception, it is then affected by the maternal blood which came in the placenta. Is it not then logical to suppose that when a woman presents during her pregnancy specific accidents, without initial cancre, that she owes this syphilis to a mode of especial contamination, and that in one word, it is syphilis though sanguine contamination?

Besides, the mother's infection by the child imposes itself by the absence of all other causes which could explain the infection. Then, as we cannot incriminate directly either the husband or any other male factor, nor any external integumentary contagion, is it not more logical to incriminate the fetus, which is syphilitic, and which almost always dies from it? Is it not, then, an occulent center of infection which the woman carries in herself, in her flesh, in her substance? So, according to clinical observations upon bacteriology and pathological physiology, we must admit that there exists for the woman a mode of special contamination—a sound woman conceiving a syphilitic child from a syphilitic man, may be infected through her own child. So may be formulated this variety of syphilitic contamination called conceptional syphilis.

Prof. Diday gave the name to the disease. He was the first who studied and described this morbid entity. There is to-day hardly any doubt upon the reality of these facts, in

spite of the objections which have been brought out.

The principal objection of authors who deny syphilis through conception, consists in saying that this variety of contamination is a fanciful creation, invented for want of anything better; that it is committing a double material error to admit a syphilis without primary period, and admits that, in such a case, the husband was sound. If no chancre has been found, it is because it has been unheeded; it was probably minute, small, ephemeral; it was, perhaps, in an unusual region, where it was difficult to reach, chancre of the vagina, of the cervix, etc.; besides, we de not know that these characters of the chancre are often met with in a woman, and that there is nothing astonishing if we failed to discover the initial accident?

Moreover, when we affirm that the husband did not present any contagious accident when the fecunding coition took place, what proof have we of this immunity of the husband? This man, supposing he was of good faith, can he not be deceived? A minim lesion, insignificant in appearance, has probably escaped his observation. Strictly speaking, in admitting that this man was sound, why is it not a question of syphilis transmitted by the blood, occasioned by an erosion or an excoriation which took place in both persons during the coition? Syphilis through conception does not exist; it is a chimera. It is easy to answer these objections. If cases of this order presented themselves only once in a while, if they were isolated facts, we could oppose them to the end, or not entertain them at all. But these facts are commonly observed, and Professor Fournier has collected personally more than fifty authentic observations. Certainly, once in a while, a chancre may have passed unnoticed, but it is illogical to admit that all authors who have reported such observations were mistaken, or have committed an error of observation. Why would the chancre be alway unrecognized only in the case where a woman has become pregnant? To pretend that these observations are bad, or to refuse to accept them,is going against logic or good sense.

In regard to challenging the testimony of the husband, certainly we must be reserved in the appreciation of his account; but we must not be too incredulous when we happen to meet with intelligent persons, of good faith, who confess they had syphilis, but who, being told of the possible danger of a contamination, have observed themselves anxiously before and after each coition. They are rather more disposed to be alarmed uselessly than rest in a deceiving quietude. Besides, in certain observations, the husband was a physician. We can scarcely put in doubt such information.

Finally, there exist, amongst the cases of syphilis through conception, unexceptional observations which challenge any critic. Such is the case reported by M. Gailleton. A young girl, æt. 16 years, virgin, became pregnant following one coition. The young man, the ravisher of this virginity, had syphilis six months previously; but, for a month, no symptoms whatever were present. Frightened at the possible consequences, he came the next day to consult M. Gailleton, who examined him thoroughly, but could not discover any specific lesion, and reassured the imprudent youth. But tne young girl, who became pregnant, presented, two months afterward, the following symptoms: violent headaches, roseola, mucous plaques: in a word, a syphilis clearly characterized, and without a trace of chancre. Before such facts, doubt is not possible, and we may say that syphilis through conception takes its place in medical science.

As to the machanism by which the infection is transmitted from the fetus to the mother, it is a problem which has not been solved as yet. Is the infection transmitted by the ovum when in the tube, or after it reaches the uterus? Or, does not infection take place later, through the placenta, after the ovum is grafted to the uterine cavity? There are many suppositions, which would bring us into discussion without end.—*Buf. Med. and Surg. Jour.*

## LOCOMOTOR ATAXIA TREATED BY SUSPENSION.

BY PROF. CHARCOT.

So gratifying have been the results in the treatment of locomotor ataxia by suspension, and so extensive has been the interest shown in it since its investigation by Charcot, that we have ventured to translate in full, for the benefit of those of our readers unacquainted with the French, the following resume of the lecture, prepared by Dr. Gilles de la Tourette, and published in the *Tribune Med.*:

"During the last three months of the year 1888 we have experimented upon a new method of treating tabes dorsalis, which has afforded us some very satisfactory results, on account of which we have deemed it wise to give it the consideration of a special lecture. The idea of the treatment belongs to Dr. Matchonkowsky, of Odessa, who first published it in 1883, in a monograph, which has remained unnoticed up to the present time. In 1888, Raymond, professor-associate, had the opportunity, when upon a scientific mission to Russia, of noting the results obtained by Matchonkowsky, a clinical pupil, and his traveling companion.

"The treatment has been employed by Gilles de la Tourette, chief of clinic, who has overseen all the operations and collected the results.

"In his monograph of 1883, Matchonkowsky declared that he had treated, and considably improved, twelve tabetics, while at the same time he had re-established, by the same method of treatment, the sexual function of other patients sugering from sexual impotence due to nervous trouble entirely independent of tabes.

"The treatment consists simply of periods of suspension, the duration of which are progressive from a half to three minutes, four minutes being the maximum with the aid of the apparatus employed by Sayre, of New York, in the application of the plaster-jacket bearing his name.

"The duration of the suspension we have said is progressive; in the beginning it should be only half a minute, and then it should be progressively increased half a minute in each seance. The seance should occur every other day; daily seances have not afforded us results in any way better. As to the technical details, we will add that it is necessary every fifteen or twenty seconds to raise the arms of the patient, in order that the traction which is exerted upon the vertebral column may be more effective.

"In this manner we have treated eighteen tabetics, furnishing a sum total of about four hundred seances of suspension. From these eighteen tabetics, it is necessary to eliminate four who have not been suspended more than three times, and who have not returned for various causes of which the distance and the difficulty of getting to the hospital seem to us to have been the more important.

"The remaining fourteen have perceived in varying degrees an improvement which, in eight of them particularly, has been simply remarkable. Three of these were presented at the clinic of January 15.

"Let us briefly analyze the result obtained. Let us add that our patients, all of them, were undoubtedly tabetic; and that the greater part of them came to Salpetriere for the application of the hot iron along the vertebral column.

"In the beginning of the treatment the improvement was almost always in the walk or mode of progression, the inco-ordination whenever it existed; this was perceptible from the very first seance. The patients declared that immediately after the first seance their walk was easier and more certain; this improvement lasts at first only two or three hours, then becomes continuous after eight or ten seances.

"The patients hold themselves erect much more easily; they can walk without assistance, perform very long journeys, a fact which has been very appreciable among the patients of Salpetriere, obliged as they have been to come a long distance to follow the treatment in trusting to the public conveyances, which usually do not leave them at the door of the hospital.

"At the end of twenty or thirty seances the Romberg symptom disappeared.

"In chronological order the improvement next appeared in the various bladder distubances so common among tabetics. Micturition becomes regular, is easier, and incontinence disappears, or is considerably benefited; in some the bladder functions have returned to their normal condition.

"The fulgurating pains also seemed to receive benefit from the treatment; they returned, after longer intervals, diminished considerably, and even disappeared completely.

"Our experience has been only of three months duration; however, in this respect, the assertions made by the patients have not seemed to us less categorical than in regard to the improvement of the other symptoms previously noted.

"Finally, under the influence of suspension, the complete impotence which is so often a manifestation of tabes gave place to sexual desires and erections. It should be noted that the experiments made by Onanoff upon healthy individuals have proved the influence of this operative procedure in exaggerating the virile power. As a corrollary to these phenomena, we will say that the numb sensation of the feet diminished or disappeared; in two patients, spots of plantar anesthesia recovered their sensibility. Finally, the general condition improved, the sleep became better, which did not appear to us to be entirely due to the disappearance of the fulgurating pains.

"In conclusion, all the patients which we have treated have improved in various degrees; the improvement has seemed to us to correspond with the duration of the treatment.

"There was an exception in one case only, that of a young tabetic, thirty-two years of age, with a pronounced hereditary taint, in whom, in six months, the symptoms of the ataxic series had almost reached their maximum. During the first month there was a marked improvement in the gait and micturition; then followed a relapse characterized by a crisis of fulgurating pains and drooping of the left superior eyelid. Since the crisis, however, the treatment seems about to renew the improvement in the various symptoms.

"In each of our patients, even in those most benefited, at the end of three months the patella reflexes have not reappeared, and even the pupillary signs have persisted somewhat.

"We have tried suspension in the treatment of some other nervous troubles aside from tabes.

"P. Blocq has also treated a young girl, æt. 13 years, suffering from Friedriech's disease. The patient, who has submitted to thirty applications, has been also presented before the clinic. Her mother, who accompanied her, has characterized the results obtained as 'extraordinary;' they were manifested chiefly in connection with the Romberg symptom, the titubation and trembling, all of which have been considerably improved.

"In two neuresthesic and impotent patients the sexual functions returned again. We believe that there is room for the extension of investigations in cases of impotence, a fact which Motchonkowsky himself has also remarked.

"On the other hand, a patient suffering from disseminated sclerosis with considerable exaggeration of treatment, was attacked with a spasmodic paraplegia after two seances which disappeared, however, at the end of three days.

"It is undoubtedly necessary to experiment further in order to fix definitely upon the value of the treatment of tabes by suspension. But it must also be remembered that the results which we have obtained in three months are most encouraging in a disease which, up to the present time, seems to have defied all therapeutics. In every case the treatment may be instituted with confidence, for it has always been our observation that whenever it was appropriately applied, it has been entirely harmless."

The Professor has limited himself in this lecture simply to the technique and results of the treatment. As to the modus operandi, he says nothing; but in this connection we can recall the old palliative treatment of ataxia

by nerve stretching. The resulting improvement in the circulation may have something to do in bringing about the lasting benefits of the treatment.—*Med. Reg.*

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## ON PROFESSOR VON ESMARCH'S OPERATION FOR CORRECTING DEFORMITIES OF THE FACE BY TRANSPLANTING SKIN-FLAPS FROM DISTANT PARTS WITHOUT PEDICLES.

BY J. R. WOLFE, M.D., F.R C.S.E.

Some years ago I ago I brought before the notice of the profession a new method of performing plastic operations by transplanting skin-flaps from distant parts. Although my operation was intended for the formation of eyelids which had been destroyed by burns or by disease, it had, as I pointed out at the same time, a wider range of applicability, and might be practised for correcting deformities of the face, and in the covering of important organs. The following year Dr. Wadsworth, of Boston, U. S., showed a successful case of the formation of a new eyelid by my method to the Ophthalmological Congress in New York, and the operation has since been adopted by many opthalmic surgeons in Europe and America. In submitting a report on seven operations to the Academy of Medicine, Dr. Swanzy, of Dublin, says: "The transplantation of skin-flaps, known as Wolfe's method, is already well known to the section. The early accounts of the results of these operations were not to me sufficiently attractive to induce me to abandon the old plans in its favor, and it was not until forced by the circumstances of a case that I employed it. Now, having found it a most satisfactory proceeding, I much regret that I postponed its trial so long."

The operation having proved so successful in the hands of ophthalmic surgeons, I have often wondered why it had not been applied in general surgery. The other day, however, I received an inaugural dissertation, sent to me by professor von Esmarch, of Kiel, in which the author (Dr. Hahn) gives a detailed account of thirteen successful cases from the clinique of professor von Esmarch, who also assisted him in drawing up the report.

In this short paper I do not intend to give the details of all the cases here recorded, but shall, for the present, give in a concise form only a few of the typical cases, with the view of directing the attention of surgeons to the general applicability of this method.

Case I.—F. O., a medical student, received in 1882 a deep wound upon the bridge of the nose in a sword duel. The under half of the nose was hanging downward. There was also in the left wing of the nose a defect as large as a florin, and reaching to the mucous membrane. After disinfection the wound was sewn with catgut, and the loss of substance in the wing of the nose was covered with a skin-flap taken from the left forearm by Wolfe's method. The flap was not stitched on, but only fixed with a compress. On the fifth day, when the bandages were removed, the wounds were perfectly healed and the transplanted flap was every where firm. Only on the upper surface of one spot was there a slight tendency to slough. By means of a compress with iodoform ointment healing was rendered complete.

Case II.—J. J., æt. 17 years, of a healthy family, had suffered for four years from lupus of the nose. The right wing of the nose was destroyed, and the nostril was nearly grown together and only kept open by introducing a drain. The patient having been put under chloroform, two incisions, commencing at the narrowed nostril close to the septum, were made. The incisions were arched, converged outward, and were carried through the upper lip in order to remove the cicatricial tissue, which was situated here and was constantly contracting. The loss of substance thus produced was covered with a corresponding skin-flap from the upper arm. Six days after the operation the wound looked well and the transplanted flap adhered perfectly.

Case III.—Madame K., wife of a lieutenant-colonel, had suffered for seven years be-

fore 1876 from a rodent ulcer of the bridge of the nose. When first observed the neoplasm was the size of a grain of seed. The nodule fell out and left a small hole like that of a maggot. In 1872, when it was as large as a pea, it was scraped, but in 1878 had returned. It was removed in the following year, and an apparent healing followed. In September, 1881, there were two red cicatrices as large as coffee beans, with small scabs upon them. She complained of frequently recurring pains, shooting toward the ear and forehead. By the external application of solution of bichloride and morphine, it healed and left only a small crust. She got arsenic. In December, 1881, the nose was quite healed, but there remained frequently recurring exacerbating pains in that place. She also suffered from an abnormal dryness of the skin (asteatosis cutis), which was cured by an ointment of white precipitate and vaseline. After she had taken 200 arsenic pills, iron pills were substituted. Then the pain in the nose gradually got more severe, and the cicatrix opened a little.

During the following year she was treated by several surgeons and also by homeopaths. In the mean time the new growth had made progress, and it was determined to have it removed. On March 14, 1883, a great part of the bridge of the nose was covered with cancer. The diseased part was removed, and the incision carried into the healthy tissue, so that there remained a defect of 20 by 13 milliameters on the bridge of the nose. A flap was removed from the left arm, was secured with four catgut sutures over the wound on the nose, and covered with sublimate lint and bandages. In the course of ten days the flap healed perfectly. In the year 1888 the flap is in appearance almost like the surrounding skin. There has been no return of the disease.

Case IV.—G., æt. 5 years, the child of a landed proprietor, was very much disfigured by a nevus pigmentosus, situated at the external canthus of the right eye. Professor K., of G., had endeavored to remove the nevus in three sittings. He removed a part, but in six months it had grown just as before. It was the size of a dollar, irregular in form, of a dark-brown color, and covered with a dense crop of hair. On June 21, 1884, Professor von Esmarch removed the whole nevus under chloroform, and covered the one half with a flap taken from the left arm, and the other with a flap from the forearm. The flaps were prepared in the manner indicated by Wolfe. The two transplanted flaps lay like a leaf of trefoil; each one measured 42 by 20 millimeters. On June 28 the flaps were adhering very well. On July 15 the flaps adhered beautifully, and their appearance was normal. The patient was dismissed cured.

The above cases from the clinique of Professor von Esmarch, whose observations extend over a period of twelve years, ought to prove of great interest to surgeons. By giving the operation a trial they may, like Dr. Swanzy, regret having so long delayed it.—*Brit. Med. Jour.*—

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Toward the close of each year, a certain society in New York City distributes securely locked money boxes, placing one or more in each of the most public places in the city—elevated railway stations, railroad depots, etc., to receive the contributions of the charitably inclined for the support of the many free hospitals of the metropolis. The churches have united in giving all money received on a certain Saturday or Sunday to the hospitals. From these sources something more than fifty thousand dollars is realized each year. This sum is distributed among the hospitals in proportion to the number of days of free board furnished by each. The rate for last year was 12.30 cents per day.

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The *Western Druggist* says that two-thirds or more of the druggists and doctors of the entire Union have probably had "seven years' experience in pharmacy" of some kind. I wonder what the *Druggist* considers "experience in pharmacy." Surely, the simple fact, that a physician dispenses his own medicines, is not to be accepted as practicing pharmacy.

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## ORIGINAL ARTICLES.

### SPLENECTOMY FOR FLOATING SPLEEN WITH STRANGULATED PEDICLE.

BY Y. H. BOND, M. D.

Specimen presented before the Medical Press and Library Association, March 23, 1889.

MR. PRESIDENT: I have here a specimen of great rareness and of corresponding interest—a spleen with a pedicle twisted so many times as to thoroughly occlude the splenic vein.

Through the courtesy of Dr. H. C. Dalton, superintendent of the City Hospital, I was requested yesterday to see the woman from whom I removed this specimen. The diagnosis, in consequence of a pregnancy of five months' duration, and the existence of an acute general peritonitis which precluded the possibility of a proper physical exploration of the abdominal organs, was involved in much uncertainty. The condition of the patient was so alarming and the perplexities of diagnosis so great, that I felt justified in advising an exploratory laparotomy, hoping that thereby a remediable condition might be revealed, and a further continuance of life vouchsafed our patient. In this latter hope we are liable to be disappointed, judging from the present condition of the patient, as now, twenty-four hours after the operation, a state of collapse is threatened.

Before the patient was sent to the hospital a physician, with a view to making a diagnosis, inserted the needle of a hypodermic syringe into the splenic tumor three times, and this may account for the presence of much bloody serum in the peritoneal cavity; for after I had divided the peritoneum over the tumor blood was seen to issue from one point very distinctly, and it occurred to me that the punctures of the hypodermic needle might have occasioned it. On the other hand some one of the intensely distended bloodvessels might have given way under the pressure of congestion incident to the venous obstruction.

The spleen was fixed in its strangulated position by recent peritoneal adhesions, and had the circumstances been such as to admit of recovery the spleen would have lost its floating character; however, its functions together with those of surrounding organs might have been so embarassed by restrictions and abnormal relations that serious constitutional disturbance might have ensued.

Had I been so conservative as to have untwisted the pedicle with a view to leaving the spleen in the body, death from embolus would in all probability have promptly terminated the case, as the blood in the large vein had already become coagulated.

To have expected the patient to recover under such a load of misfortunes would have been unreasonable, and yet death, without the operation was inevitable. I dare say the fate of our patient would have been different had she been without so many serious complications.

The following is the hospital record of the case: Family history good; general health good; habits and mode of life regular; hygienic surroundings poor. Has had four healthy children at full term and no miscarriages. After her third confinement, four years ago, she noticed a small movable tumor, about the size of a lemon, in the right iliac fossa, which was hard to the touch. This grew slowly and painlessly. She also states that during her third confinement, when the

bag of waters burst, she felt "something break and drop down" and afterwards she discovered this tumor. However, of this last sentence we are not certain.

On the morning of March 15, she was taken with severe pain in the lumbar region, which caused her to take to bed, where she has since remained. From the 15th to the 21st she continued to have lumbar pains and was obstinately constipated. During the first three days of this time she occasionally vomited bilious material. Anodynes and purgatives were administered, but the bowels moved only imperfectly. Pain increased steadily, and on the 21st was almost unbearable. Meteorism appeared and bilious vomiting returned. She became rapidly exhausted and in this condition she entered the hospital.

She had not menstruated since October last, had had morning sickness, and in the past three weeks had felt quickening.

Prior to her coming to the hospital a hypodermic needle had been introduced into the tumor, bloody fluid being withdrawn each time.

When admitted to the hospital, she was in almost a collapsed condition—pulse small, soft and 136 per minute, temperature, 100° F., respiration 24, countenance waxy and anxious; complete anorexia, but some thirst. Each time she took water, she vomited. Vomitus, green but malodorous.

By gentle palpation the pregnant uterus was easily outlined. In the right hypochondriac and lumbar regions was a firm resistant tumor, felt on percussion, and exquisitely painful on gentlest palpation, which was found to be less as the distance of the pressure from the tumor increased. The tenderness together with meteorism which existed prevented a perfect outlining of the tumor.

As death of the patient was imminent, it was decided that a laparotomy offered the only hope, and Dr. Y. H. Bond performed the operation March 22. An incision was made, beginning near the ensiform cartilage, and extending slightly below the umbilicus, almost to the fundus of the uterus. This brought the tumor into view. It was quite firm, and of a hue resembling venous blood Considerable difficulty was experienced in determining its nature, but when the incision was enlarged and the tumor turned out of the cavity, it was plain that it was a floating spleen, about thrice its normal size. Its pedicle was so tightly twisted that at least its venous circulation must have been completely obstructed. The pedicle was ligated with three large silk sutures near the hilus of the spleen, which was then removed and the pedicle returned. Spleen weighed 1600 grm., was 5½ inches wide, 3½ inches thick, and 8½ inches long.

When the abdominal cavity was opened a large quantity of bloody serum escaped. General peritoneum was much injected and slightly roughened, but not in the least covered with lymph. I do not remember to have seen a band of lymph except at the hilus of the spleen.

At the end of the operation pulse was 140 per minute and very small; temperature, 101.2° F.; respiration, 24. Since then she has not been given anything by the mouth and has not vomited. Gave enema of 100 cc. peptonized milk and 40cc. whisky every two hours and alternated every hour with 250 m. whisky subcutaneously with 12.5 m. tr. digitalis and 0.12 gm. camphora, subcutaneously. Exhaustion was so great as to demand this energetic stimulation.

The contents of the uterus were expelled early the following morning; very little blood lost. Her pulse which had been fairly voluminous since the operation suddenly disappeared from the wrist and only reappeared after a subcutaneous exhibition of whisky and tr. digitalis. Of the cause of this, I am not aware. She had lost a small quantity of blood before this and was given 50 m. fl. ext. of ergot. Since then she has been catheterized every six hours, nourished and stimulated systematically. She died March 24. Post-mortem: Heart and lungs normal. Abdominal viscera found slightly adherent to parietes by a diffuse fibrinous exudation. Liver and kidneys anemic. Stump from which spleen had been removed was intact with

splenic vein very much distended. Uterus contracted to the size of a goose-egg.

Splenectomy has now been performed sufficiently often, and the operation attended with such a percentage of favorable results as to place it upon an established basis in suitable cases. It is, therefore, unnecessary for me to give a complete history of the operation. Suffice it to say that to Zaccarilli is due the credit of having first removed the spleen in 1544. The patient recovered, thereby demonstrating the fact that the presence of the spleen was not absolutely necessary to the continuance of life. The next recorded case was that by Quittenbaum, of Rostock, in 1826. His patient, a woman, died from shock within six hours after the operation. The spleen weighed nine pounds.

Previous to 1867 comparatively few cases are recorded, and almost all that were reported had fatal results. In that year Pean reported a case in which two months previously he had successfully removed the spleen, having mistaken it for an ovarian tumor.

The *Medical Record* of 1888 contains a full and exceedingly interesting report of a case of splenectomy by Dr. Nilson, of New York. The operation was performed to obviate the danger of strangulation of the organ, which was thought to be imminent. The patient recovered and was in good health eighteen months thereafter.

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## Discussion.

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Dr. A. H. Meisenbach.—I was fortunate enough to be present during the latter part of the operation performed by Dr. Bond. When the doctor separated the adhesions of the tumor from the surrounding organs, it proved to be the spleen, although some little doubt might have existed whether it was the spleen or a kidney, one portion of it being contracted so as to give an appearance resembling a kidney.

Had there been no peritonitis it would have been an interesting case for a differential diagnosis, to determine whether the tumor was a kidney or a spleen. This might have been determined by a very careful consideration of the anatomical land-marks of the spleen in connection with the physical signs found in the abdomen. In floating kidneys it is sometimes difficult to make out the distinct form of that organ. Another interesting point is, was the spleen primarily congested, with gradual lengthening of its attachments, or was it a long existing abnormality of the attachment? I should be inclined to the belief that the abnormality was congenital. This long pedicle had allowed the organ to wander about and at last the twisting arose. The enlargement and undue pressure of the spleen on the peritoneum as well as the abdominal vessels, produced the peritonitis.

Where there is peritonitis and distension of the abdomen, it is a physical impossibility to detect and determine the nature of tumors in the abdominal cavity. There is no question that an exploratory laparotomy and the removal of the spleen was the proper procedure. The operation itself, aside from the breaking up of the adhesions, was not attended with any great difficulty, excepting in reference to the perfect control of the vessels The artery is large, and if the ligature is not securely put on, the force of the blood-current from the aorta is very liable to cause it to slip.

I don't believe that the function of the spleen is yet fully appreciated. Some writers go so far as to state that it acts as a safety valve in the process of digestion. As this process goes on the spleen regulates the current of blood that, during the process, tends toward the stomach.

Surgeons are beginning to appreciate the fact that an impregnated uterus is not an absolute bar to operative interference. I believe that the period of pregnancy may have an influence on the result of an operation. I have recently seen data in which operations have been performed in women with good results.

Prof. Trelease.—Do not the animals which have lost their spleens have an abnormal appetite?

Dr. Meisenbach.—Yes, I believe that is the case.

Dr. Bond.—A case reported by Dr. Nilson seems to have shown no change in the condition of the woman at all.

Dr. J. R. Lemen.—Dalton, in his physiology, says that the appetite is increased and the temper is made more irritable by the removal of the spleen.

Dr. C. H. Fairbrother.—Enlargement of the spleen occurs so often, and to such an extent that in many cases it is hardly to be considered a pathological condition, the spleen going on in the performance of its functions the same as if it were in its normal condition. I have often seen cases, when the spleen came to the median line, and was ten inches in length. I have tested the influence of quinine in the reduction of such spleens. It has removed the enlargement, but on discontinuing the drug it would again return. The pedicle is generally elongated where the spleen is enlarged. When it becomes so much elongated as to become entangled, twisted, then it is pathological and an operation is the only course to pursue. But of course this should not be done for simple enlargement of the spleen.

Dr. Bond.—There was apparently no obstruction of the splenic artery, the blood could be carried to the spleen, and the fact that the vein contained freshly clotted blood, would show that it must have been a recent obstruction. The probability is that there had existed for a long time a certain amount of twisting, and finally the absolute obstruction of the venous return, and then the peritonitis, which bound the spleen in its abnormal position.

Dr. Lemen.—Do you date the peritonitis from the time when the hypodermic syringe was used?

Dr. Bond.—No, the peritonitis antedated this.

Dr. Fry.—There is a great deal of variation in the arrangement of the peritoneum in different individuals. In some cases I have attempted to demonstrate the suspensory ligament of the spleen, and have found it to be absolutely wanting. And there is the same variance with reference to the gastro-splenic omentum.

Dr. Bond.—The fact that there are so few cases reported in which the circulation of the spleen has been entirely obstructed by twisting of the pedicle, if there are any such other than this, indicates pretty clearly that such a condition of elongation is very difficult of accomplishment. If it were an easy matter to elongate the supports of the spleen, they could readily become twisted, and we would have many such cases reported, and yet I have not read of a single case, and this is the only case in which the pedicle has become so twisted as to absolutely obstruct the circulation, so far as my reading upon the subject goes.

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Preparation of Oxygen.—A convenient and not too expensive method of making oxygen is recommended by Lindner in the *Chem. Ztg.* He puts any quantity of peroxide of hydrogen into a bottle capable of holding twice as much and acidulates it with diluted sulphuric acid. The bottle is provided with a well-fitting rubber cork, into which is fitted a funnel which reaches to the bottom of the bottle, and a tube suitable to conduct the gas from within the bottle. A concentrated solution of permanganate of potassium is poured into the bottle through the funnel, when twice the amount of oxygen which the peroxide will yield will be liberated, which may be collected in any suitable way. By regulating the flow of the permanganate solution the stream of oxygen may be increased or decreased.—*Phar. Rec.*

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The Exciting Cause of Urticaria.—Dr. Jacquet regards local irritation as the exciting cause of the pruritus and wheals of urticaria, the underlying cause being an abnormal condition of the cutaneous vaso-motor nerves. He has found that by hermetically covering any portion of the body in a case of generalized urticaria, the pruritus and wheals almost immediately disappear from that part, the uncovered surface remaining unchanged.—*Med. Rec.*

WEEKLY MEDICAL REVIEW,

R. L. THOMSON, M.D., BRANSFORD LEWIS, M.D., EDITORS.

Contributions for publication should be sent to the Editor, 3555 Olive St.

All remittances and communications pertaining to Advertisements or Subscriptions should be addressed to

J. H. CHAMBERS,

914 LOCUST STREET, ST. LOUIS, MO.

SATURDAY, APRIL 13, 1889.

## PUBLISHER'S NOTICE.

The contract that existed between the Medical Press and Library Association and the publisher of the WEEKLY MEDICAL REVIEW, by virtue of which the journal was edited, has, by mutual consent, been cancelled. It is gratifying to be able to say that this result has come about without the slightest disturbance of those kindly sentiments that have for so long a time obtained with all the parties interested.

For the present, Drs. R. L. Thomson and Bransford Lewis have full editorial charge of the REVIEW. It may be well for us to say in this connection that it is contemplated to have the journal occupy a much higher place in the esteem of the profession than it has done heretofore. The names of these two medical gentlemen, of acknowledged ability, will be a guarantee to the medical profession of the entire country that the journal will be edited according to the requirements of the best sentiment of the profession. We shall know no cliques, no factions; our aim shall be to give only such *medical* articles as shall be of real value to the profession, six pages of which will be editorial in each number, giving condensation of the medical literature of the times, minus long, prosy papers in detail which, in our judgment, should have no place in a *weekly* medical journal. We invite contributions from all good men in the profession, and trust that we shall soon be able to develop in our readers a renewed pride and interest in the REVIEW, enlarged and improved, as it shall be.

## EDITORIAL.

### THE AMERICAN MEDICAL ASSOCIATION.

At the last meeting of the association several amendments were offered, one of which was proposed by Dr. H. N. Moyer, of Illinois, which reads as follows:

"There shall be created a Section of Pharmacy and Materia Medica, which shall have its own autonomy, in like manner as the Section in Dental and Oral Surgery. Reputable members of the State Pharmaceutical Associations shall be eligible as members of the same on presentation of credentials from their State Secretary, but shall have no voice in the general sessions of the Association.

"The Section of Surgery shall hereafter be denominated the Section of Surgery and Gynecology.

"There shall be created a Section of Anatomy and Physiology.

"The Section of Obstetrics and Diseases of Women shall be abolished.

"The Section of Diseases of Children shall hereafter be denominated the Section of Obstetrics and Pediatrics.

"The Section of Dermatology and Syphilography shall hereafter be denominated the Section of Dermatology and Genito-urinary Diseases.

"The Section of Medical Jurisprudence shall hereafter be denominated the Section of Mental and Nervous Diseases.

"The Section of State Medicine shall hereafter be denominated the Section of State Medicine and Medical Jurisprudence.

"The Section of Practice of Medicine, Materia Medica and Physiology shall hereafter be denominated the Section of Internal Medicine."

### TREATMENT OF SPECIFIC FEVERS.

Dr. Illingworth, of London, says (*Med. Rec.*) that all specific fevers are due to germs and the treatment should be germicidal and hematinic. The drugs that he uses in scarlet fever, measles, diphtheria and like disorders

are biniodide of mercury, iron and chlorate of potash. When the throat is involved, he uses a local application made as follows: Add ten minims of a 1 in 4 solution of potassic or sodic iodide to ℥jss. of a 1 in 500 solution of the bichloride of mercury and sweeten to ℥ij with pure glycerine. This makes a red mixture, in which the biniodide forms a fine precipitate suspended in glycerine. In those cases in which the biniodide mixture is vomited, a combination of bismuth, carbolic and hydrocyanic acids answers well, while the biniodide is given in powdered form.

## Rigors: What They Indicate.

In a paper upon this subject in the *London Lancet*, Mr. W. Gilchrist Burnie reports three illustrative cases and points out a few diseases that rigors may indicate other than those that are commonly regarded as following them.

The first case given was that of a man, æt. 56 years, with good family history. His health was good until within the last few years, during which he suffered from stricture of the esophagus. When Mr. Burnie was called he found the patient suffering from hemiplegia, from which he made an apparent complete recovery at the end of two months, an attack each of syphilis and gout having retarded the case.

The patient, however, continued to be apathetic, had no desire to get out of bed, and soon began to complain of a chilliness and pain in the region of the liver. Mr. Burnie was summoned, and he found the patient in a violent rigor, and with a temperature of 107° F. He continued to have one or two of these rigors daily for about six weeks, at the end of which time he died.

The most interesting feature of this case is that a post mortem showed that the patient died of melanosis, and no pus was found in any part of the body. The liver was the principal organ involved, being black throughout, solid and somewhat enlarged, and on microscopical examination presenting nothing but cancer cells and pigment granules, no liver cells being seen.

Another point of interest was that although the patient had suffered from a recent attack of purulent catarrh of the bladder, that organ was found perfectly healthy.

The second case given was that of a well-nourished young man, who after suffering for a day from general malaise, had a violent rigor, which was followed by a severe pain in the region of the gall-duct. Violent frontal headache and severe pain in the region of the liver continued for two weeks; there was a nightly elevation of the temperature accompanied by violent rigors, followed by profuse sweats. At the end of this time a history of syphilis was obtained and the patient was put upon iodide of potassium and he made a rapid recovery. Four years later syphilitic brain disease appeared, which caused his death. In this case when the rigors occurred abdominal abscess was regarded as the most probable cause of them.

The third case given was that of a primipara, who a week after delivery began to have one or two rigors daily. Mr. Burnie observed that when the patient remained in the second story of her house, she improved rapidly and the rigors ceased, but each time she returned to the first floor the rigors were rspeated. A decided odor of sewer-gas led to the discovery of an open connection between the lower room and the sewer. The patient was sent to the country, and she rapidly recovered.

## Treatment of Spasmodic Croup.

Dr. Reynolds, of Philadelphia, writes to the *Med. News* that in the treatment of spasmodic croup he esteemed an emetic indispensable as an introductory treatment in all cases. He has found that almost invariably the last meal that the child has taken lies undigested in its stomach. He thinks ipecac is the best and simplest emetic. After the emetic he administers as large a dose of fluid extract of gelseminum as the age of the child will justify, and from two to four grains of quinine. The following day he gives the patient a dose of castor-oil and two drops of

gelseminum every two hours, and the second night a full dose of the latter drug and quinine.

Many cases can be effectually controlled by glving from two to four grains each of quinine and ipecac, at night. When the paroxysm is on an effective remedy in controlling it is a mustard hot foot bath. This is better than placing the body of the child in the bath.

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## Our State Medical Association.

The president, Dr. A. W. McAlester writes that the prospects are very promising for a large meeting. The committee on scientific communications are now arranging a programme that will be adhered to closely; hence the necessity for those who wish to read papers to send in the titles at once that they may be placed on the list.

A new feature is to be inaugurated; at least one day will be set apart for oral discussion. The subjects to be discussed will be placed upon the programme. The object of this is to have a free interchange of thought among the members, as much valuable information may thus be given by those who are too busy to write papers. This is a most excellent idea, and will assuredly add great interest to the meeting. We hope to place the subjects for discussion before the readers of the Review at an early date, that those who will attend the meeting may have an opportunity to crystalize their thoughts upon the subjects on which they will speak. The only objection offered to the proceedings at Kansas City was that very few, other than the readers of papers, had an opportunity to take part in the scientific work.

It is probable that every physician who will attend the meeting is in possession of practical points that will be of value to many others who will be there, and yet a statement of these practical points would be too brief to form even the basis for a paper.

Medical societies are each year growing in interest and importance. The physician who is content to practice medicine simply upon his own experience without profiting by the experience of others, will find many a stumbling block that a medical society man does not meet.

Some have fallen into the error of thinking that there are too many medical societies. They forget that there is no compulsion in the matter of attendance; each one has the privilege of attending only so many as he pleases, and I have yet to learn of an instance in which a medical society meeting did harm.

The inhabitants of Springfield, of whom the physicians form a creditable part, will bid us a hearty welcome May 21st.

St. Louis will furnish a good delegation for the meeting.

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## An Emergency Hospital.

It seems remarkable that St. Louis, with nearly half a million inhabitants, has not had an Emergency Hospital. In this respect our city has been far behind the other leading cities, not only of this country, but of Europe as well. True, we have a large free city hospital and quite a sufficient number of private institutions to take care of the indigent. But the city hospital is the only one that has an ambulance service, and it is only indirectly accessible by telephone; besides it is not centrally located.

All physicians recognize the importance of "intelligent and efficient first aid" to the injured, and this cannot be given except by means of a fully equipped and easily accessible ambulance corps. The need for an institution, having such equipments, has not been met by our city government, and the St. Louis Mullanphy Hospital has supplied the demand by establishing an Emergency Hospital at 410 North Eleventh Street, under the supervision of the Sisters of Charity. The institution has two resident physicians, one of whom will accompany the ambulance, with all the surgical appliances necessary for the relief of the injured, and they will be on duty night and day. The hospital has several

beds to be used when patients cannot safely be carried to their homes.

The ministrations of the hospital in all its departments will be absolutely free. No charges whatever will be made for the services of the physicians or nurses, use of ambulance, nor for that of the hospital while the injured remain there.

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### Treatment of Hydatids of the Abdomen.

Mr. Girdlestone, of Australia (*Brit. Med. Jour.*), reports a case of a pregnant woman, thirty years of age, who had a hydatid cyst of the abdominal cavity near the umbilicus. He transfixed the cyst with three long steel acupressure pins placed parallel to each other, and held them in position by silk, figure-of-eight loops. Twenty-four hours later the middle needle was removed and an incision was made, through the abdominal wall between the two remaining pins. "The cut edge of the cyst was fixed to the integuments by four interrupted wire sutures." The cyst was then emptied, the cavity washed with bichloride solution, one to one-thousand, drainage tube inserted and wound dressed antiseptically. The wound was almost closed at the end of two months. Four months after the operation the woman was safely delivered of a child.

I do not see what was gained by waiting one day and no longer after the pins were introduced. If inflammation occurred the inflammatory exudation did not have time to become organized; besides it is much safer to cut into healthy than into inflamed tissue. Again the withdrawal of the middle pin, before the cyst was emptied, was certainly liable to be followed by a portion of the cyst contents. The old method of exciting adhesive inflammation over the surface of the liver before opening an hepatic abscess has been happily done away with, by cutting through the abdominal wall over the site of the abscess, stitching the parietal and visceral layers of the peritoneum closely together around the wound and then opening the abscess cavity freely. Why may not the same principles apply to the opening of an hydatid cyst of the abdomen?

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### Laceration of the Perineum.

Dr. Lusk says (*Med. Era*) that it is possible always to avoid laceration of the perineum if the vulva is healthy and natural. He thinks one of the chief causes of laceration is instrumental interference before the vaginal outlet has had sufficient time to become relaxed, such practice often coming under the head of "meddlesome midwifery."

In the use of forceps, as in many other procedures in medicine, the contradictory results as given in statistics are simply inexplicable. Unquestionably many lives of both mothers and children have been saved by the timely use of forceps, but just when they shall be applied must still be left to the judgment of the attending physician, as the varying circumstances preclude the establishment of definite rules.

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### Alarm Thermometers.

Dr. Arnold expresses the opinion, in the *Brit. Med. Jour.*, that many lives are lost by the radical changes that are permitted to occur in the temperature of sick-rooms. This is especially liable to be the case at night. In many business houses, thermometers are used which have electric signals so attached that an elevation of the temperature of the room to a certain degree rings an alarm bell and starts an automatic water sprinkler to work. A modification of this instrument could be cheaply and easily made that would be admirably adapted to the sick-room.

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### Poison in Mushrooms.

Some persons in Berne, Switzerlend, exhibited symptoms rf severe poisoning after eating mushrooms. Prof. Demme and Dr. Berlinerblan made an investigation, from which they concluded that there was a double source of danger in eating this much prized delicacy, the chance of admixture of a poi-

sonous species and the possible production of a ptomaine like substance the result of a partial decomposition of the common species.

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### The Treatment of Corns.

A saturated solution of salicylic acid in flexible collodion is recommended as an excellent remedy for corns. The corn should be painted twice a day. It takes about twelve days to effect a cure.

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### NEWS ITEMS.

Texas State Medical Association.—The next annual meeting will be held at San Antonio. The increase in the number of physicians in Texas keeps pace with its rapidly growing population, and the coming meeting will be a large one. We have many friends among the physicians of the Lone Star State, and know that they are not behind the representative men in the profession of other states in scientific attainments and good will toward one another, the two requisites for a splendid annual meeting.

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On June 26, Dr. Wm. Pepper, of Philadelphia, will deliver an "Address on Medicine" before the American Medical Association at Newport.

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The Alabama legislature is considering a bill similar to the law now in force in the state of New York, whereby criminals condemned to die are executed by means of electricity.

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Sir Wm. MacCormac is writing a work on "Surgical Operations." It is being published in sections by Smith, Elder & Co., London. The great achievements of the author in the field of surgery will give this work a wide-spread welcome.

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Ringworm must be quite prevalent in the city of Paris. Mr. Ernest Hart writes the *British Medical Journal* that for the last two years there has been a school in Paris for children suffering from this disease. It has been so successful that an addition has been made to Hopital St. Louis, for this purpose. Such children are excluded from other schools. They attend the special schools every morning, receive medical attention and common school instruction and return home in the evening.

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Sometimes an infant's tongue can be exposed to view by simply pressing the cheeks gently with thumb and forefinger. If necessary hold the nose for a moment and the tongue will come in sight.—Ex.

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Dr. Lessona (*Arch. Gynecol.*) says the presence of symptoms of septicemia following labor indicates that the uterine cavity should be cleansed of any remaining products of conception, and he prefers to use the curette in such cases.

The uterine cavity should be made as aseptic as practicable before using the curette.

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In a recent report of the State Board of Health of Michigan, it is estimated that during the two years of 1886-7 something more than eleven thousand cases of scarlet fever and diphtheria were prevented, and about sixteen hundred lives saved by isolation and disinfection.

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Mr. Jonathan Hutchinson, Jr., reports a case (*Brit. Med. Jour.*) in which a man's vision, both eyes, was somewhat suddenly reduced to counting fingers twelve days before his death. Ophthalmoscopic examination revealed white, hazy retinæ, with scattered hemorrhages, retinal arteries extremely small and veins much diminished in size. Post-mortem, a small aneurism was found lifting up and pressing on the chiasma. Both optic nerve-sheaths were greatly distended, and the lymph-spaces were much dilated. Mr. Hutchinson considered the case of interest as bearing upon the question of whether pressure upon the optic nevre produces inflam-

mation or simple anemia and edema of the retina with hemorrhages.

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John Bright, tne great English orator, is dead.

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Dr. Broadbent, in writing to the *London Lancet*, says the custom of telling the patient too much is a modern one, is prolific of evil, is most pernicious, and has its origin in the hospital.

One of the supposed good effects of telling a patient what he is to take, is that he can tell the succeeding physician what drug has been given and what its effect was, but this encourages the patient to prescribe the same drug for himself at a subsequent time, or to seek the advice of another physician. The habit of changing doctors on slight pretense is one that is rapidly becoming more general and is very detrimental to both the laity and physicians.

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At a meeting of the Medico-Legal Society of New York, Dr. Thiving read a paper advocating the promotion of euthanasia in cases in which patients are dying in great pain. Judge Noah Davis gave an opinion that "in the eyes of the law there are no possible circumstances under which any human being is justified in purposely taking the life of another human being." Of course, these remarks had no reference to the execution of condemned criminals, or the taking of life in self-defense.

Too many patients have recovered after having been "given up by all the doctors" for the promotion of euthanasia to be accepted as a justifiable procedure. Anesthetics and anodynes may be given to relieve pain, but never to hasten a fatal result.

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American Pharmaceutical Association. —This Association will hold its next annual meeting at San Francisco, Cal., on June 24 to 28, inclusive. The Union Pacific Railway will run an excursion train to 'Frisco and return, which will leave St. Louis June 14. Tickets can be procured at 213 N. 4th St. in this city. This affords an excellent opportunity for physicians to visit the Golden Gate, at a moderate expense. Every physician should take a summer vacation if his circumstances and practice will admit of it.

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## SOCIETY PROCEEDINGS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, March 13, 1889. The President, W. W. Keen, M.D., in the chair.

Dr. G. Betton Massey exhibited

An Elastic Intra-Uterine Electrode.

In employing the galvanic current for the enforced involution of fibroid tumors, it is well known that a concentration of current within or close to the tumor is required. In many cases we are enabled to do this by carrying an electrode tip into the natural cavity of the uterus, in which position it is either very close to or actually surrounded by the morbid growth. Unfortunately this cannot be done with the ordinary stiff electrode in a large proportion of cases of the intra-mural variety, owing to the tortuosity of the uterine canal, hence the resort to electro-puncture. To obviate this necessity as much as possible, I have been led to have an electrode made by Fleming, of this city, which will be so elastic as to follow the bends in the cavity, and reach the fundus without the use of force. It is made, as you see, of a spiral wire, terminating in an appropriate bulb, and the more rigid stem is insulated with hard rubber. If it is desired to carry the insulation closer to the tip, this is done by slipping a piece of thin rubber tubing over it. Sounds or electrodes of this kind require to be boiled at least five minutes before use, to insure cleanliness; without this precaution, the unusual chances for the lodgment of foreign matter would make their use dangerous. As the particular electrodes that I show you are made of nickle-plated brass, they should be used for the negative pole only, but there is no reason why such an electrode should not be made of platinum.

DISCUSSION.

DR. J. PRICE.—I will simply call attention to the dangers of these instruments. Some time ago a prominent electrical specialist in using one of these instruments at the Woman's Hospital, New York, burnt a hole through the fundus and perforated the bowel, and in twenty-four hours the woman was dead. This same accident has occurred in other places. In a case in this city, death from peritonitis followed in a few days an application of electricity to the uterus. The physician states that the death was due to peritonitis, the result of cold.

DR. J. M. BALDY.—There are too classes in regard to the treatment of uterine troubles by electricity; some, who think there is a limit to the good to be accomplished; others, who seem to think that anything can be done. Of course, to adopt a line of thought of that kind, a man must be able to make a positive diagnosis. Most of those who have insisted on the fact that a positive diagnosis can be made, have come largely to grief. Mann made a positive diagnosis of extra-uterine pregnancy, and treated it by electricity. An operation by Dr. Wylie, of New York, showed that pregnancy had not existed. An operator in this city, in reporting a case, made the remark that he had another case of extra-uterine pregnancy, and was waiting for the fetus to die before he operated. It has not yet been reported. I hear that Dr. Buckmaster, who has been treating a case by electricity, recently announced to his patient that she was seven months pregnant. I could give other instances showing the difficulty in making a positive diagnosis.

To form a fair judgment of the results of electricity, we should know the bad results as well as the good. We never hear of deaths, or failures, or errors in diagnosis. We have to hunt them up ourselves.

DR. JOSEHH HOFFMAN.—So far as my experience goes, it coincides with that of Dr. Baldy. I now have under observation three cases that have been treated by electricity. One cases was said to be cured of tubal trouble, I suppose by derivation. A short time later, an abdominal section and so-called hysterorrhaphy was done, and she was treated by electricity to relieve the adhesions. The case then came under my care; I found hard, dense adhesions; it was all that I could do to break them. In another case, a woman had been treated four months by an electro-maniac for disease of the bladder, and had gotten progressively worse, and she at last abandoned electricity. In another case electricity was used for a pelvic trouble, and the perineum repaired; there is now a mass in the side as large as a fist. In another case, a woman came to me with an attack of acute peritonitis following the use of electricity. I think, that in view of such facts, we have some reason for our scepticism.

DR. MAX STERN.—Dr. Price spoke of burning holes in the uterus. It would be impossible to do so with this instrument. This is a simple galvanic electrode, and not a cautery knife.

DR. GRAYDON.—I have seen, and I guess Dr. Price has also, an ordinary sound passed through the fundus. The remarks of Dr. Hoffman are rather sweeping. I think that operative treatment is also open to criticism. It would be easy for some of us thus to criticise many of the operations we hear of. But as that would be unfair, so is it unjust to condemn so unsparingly electrical treatment. While this mode is open to abuse in the hands of some, there are many of us that can speak of results obtained. And we know what we have accomplished in our practice. I have seen fixed uteri released by galvanism. I have seen fibroid tumors reduced in size by the same agent.

DR. G. BETTON MASSEY.—I had no idea that the presentation of these electrodes would have opened up the discussion of the general subject of electricity in the treatment of uterine diseases. Some of the remarks are just, others are unjust. As has been remarked, puncture may follow the use of any instrument shaped like an electrode or sound. It is more likely to occur where you have a softened uterus and a heavy current, particularly with the negative pole in the uterus. Of

course, the electrode could not get red hot. Dr. Price's knowledge of physics should tell him that there is simply a chemical electrolysis of the tissue.

Both gynecologists who use electricity and those who do not, come across cases of salpingitis, possibly due to unwise treatment at the hands of previous attendants upon the case, whose presence is made known as the result of an intra-uterine application that would otherwise have been harmless. If an intra uterine application of a strong current is made in such a case, the fault lies with the operator rather than with the current, for it is now well known that no intra-uterine applications should be made in the presence of such conditions.

## CORRESPONDENCE.

### HEROIC TREATMENT.

VINEYARD, ARK.

EDITOR REVIEW: I read an able article in the WEEKLY MEDICAL REVIEW of March 9, from the pen of Dr. J. H. Williams, accurately delineating the treatment of a bad case of morphia poisoning. With no intention of criticising or finding fault with his treatment, I wish to offer a suggestion.

Now, we poor swamp doctors have to resort to tack to accomplish what our more favored brethren do with medical apparatus, for if we had the appliances we could not carry them around.

I once was called to see a negro man who had, through mistake, swallowed a half drachm of sulphate of strychnia, which he had purloined from his neighbor's mantelpiece, mistaking it for a twenty-five cent bottle of quinine. He learned his mistake by the effect of the medicine.

I chloroformed him until his jaws became relaxed, then poured down his throat six drops of croton oil and one hundred grains of chloral hydrate. I repeated the chloral in smaller doses, and in a little while I had the strychnia in the night-glass and the patient sleeping quietly. I left a vial of chloral to be used when needed, and in just four hours was back at home, between the sheets, helping to keep the baby warm.

The suggestion I wish to make is that if Dr. Williams had prepared his most excellent and scientific treatment with a double dose of croton oil, he might that night have enjoyed the same most estimable blessing.

J. H. VINEYARD, M. D.

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WINFIELD, ARK., March 30, 1889.

EDITOR REVIEW.—Every physician who has had occasion to treat cancer of the uterus is familiar with the sickening odor of the vaginal discharges accompanying that disease, and how impossible it is to wash the hands with soap and water sufficiently clean to rid them of this odor after handling one of these cases.

Dr. F. A. Emmet, in writing on this subject, says, "Thymol is the only thing that will remove it."

I have a case under my care now of the cauliflower variety, and the vaginal discharges are sickening in the extreme. I have found that after washing my hands one application of oil of turpentine to them, followed by another washing with soap and water, removes all odors completely. I have never heard of this being recommended, and I would like to hear from the readers of the REVIEW.

CHEVES BEVILL.

[The odorous material, that clings so tenaciously to the hands after handling the abdominal viscera in making post-mortems, may be completely removed or deodorized by the use of oil of sassafras. Doubtless it would answer a like good purpose in cases such as the one mentioned by Dr. Bevill.—ED. REVIEW.]

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A BILL has been introduced into the Wisconsin Legislature prohibiting the cutting and selling of ice, from certain parts of the Milwaukee River, to be used for domestic purposes. Many cases of disease in Milwaukee are supposed to have been caused by the use of this impure ice.

## SELECTIONS.

### INAUGURAL ADDRESS ON MODERN PROGRESS IN OBSTETRICS AND GYNECOLOGY.

BY ALFRED LEWIS GALABIN, M. D., M. A., F. R. C. P.,
Obstetric Physician and Lecturer on Midwifery to Guy's Hospital; President of the Society.

Delivered at the Obstetrical Society of London, March 6, 1889.

GENTLEMEN.—My first duty is to thank you heartily for the honor which you have done me in electing me as your President,—the greatest honor which can be conferred upon an obstetric physician. I enter with diffidence upon the duties of an office my predecessors in which have been such distinguished men and such successful Presidents, and trust only that, if there be any shortcoming on my part, the Society may not be the sufferer.

In evidence that our Society has never occupied a more prosperous position than at present as regards the number of its Fellows, I need only recall the fact that, during the four years of my treasureship which have just elapsed, its funds have increased by as much as £600, while during that time it has published the most valuable and costly volumes of transactions, from the number of its lithographic plates, which has ever appeared. The activity of its Fellows in scientific work has been no less manifest both by the quality of the papers contributed, and by the necessity, which has arisen for the last two years, for holding extra meetings in order that no papers might remain unread.

Of the two branches of medicine which form the main field of our Society's work—midwifery and the diseases of women—midwifery has for many years been furthest advanced on the way toward scientific perfection. A large part of its province has to do with questions of mechanics, which are both readily open to observation and experiment, and can in some measure be decided by rigorous mathematical deduction. Gynecology, on the other hand, has been a field for conflicting opinions, for theories often accepted without adequate proof, and for changing and evanescent fashions of treatment. It is in the diseases of women, therefore, that the greatest activity of work and the greatest progress of discovery might be, if not expected, at any rate desired. Nevertheless, it must, I think, be said, on a fair review of the work of the last few years, that midwifery has made even more striking advances than gynecology. In one of the most notable of these, Germany has taken the lead; I mean in the revolution which has taken place with regard to Cesarean section. Only about six years ago the mortality of Cesarean section was variously estimated at from 70 to 90 per cent. It even appeared that its mortality had actually increased as years went on, a result which could only be explained by supposing that operators were less bold than formerly in undertaking timely operations. Moreover, of the few who survived the operation, the majority were women living in the country. Comparatively few cases were successful in great cities, or in the hands of eminent obstetricians or surgeons. It appeared as if only country robustness could face so great a risk. Not many years before, an unusually successful operator, for that time, had contended that it was wrong to place sutures in the uterine walls at all, and that the uterus, in virtue of its contractile properties, would writhe until it got free from whatever sutures could be applied.

Now, the improved Cesarean section, as performed under the most favorable circumstances at Dresden and Leipzig, shows a mortality over the whole series of only 9 per cent. The latter part of the series gives promise of a result for the future still surpassing this. The improvements in the operation introduced by Sanger, especially the adaptation to the uterine wound of Lembert's intestinal suture, are doubtless of great value. But an important part also of Sanger's work has been that he has popularized the operation, has led obstetricians to practically study it, and undertake it as a first choice, in cases

of contracted pelvis, at the most favorable stage of labor. The importance of this element is shown by the relatively unfavorable result of Sanger's operation elsewhere, and especially out of Germany. Its general mortality for the last four years is thus raised to 26.8 per cent. The circumstance of greatest promise for the future is that the success has not been merely that of one or two operators of transcendent skill or unusually wide experience. Although it has been won mainly in German cities, and, above all, in two of them, the number of actual operators has been considerable, even at Dresden and Leipzig. Even throughout the whole of Germany the average success attained has been remarkable; 74 operations by 34 operators within the last four years give a mortality of only 14.8 per cent. These figures I give from the lastest statistics, as communicated to me by Dr. R. P. Harris, of Philadelphia.

As yet, indeed, the result does not justify the claim which some enthusiasts have prematurely made, that craniotomy should be cast aside as a murderous procedure, and Cesarean section in all cases substituted for it. This may, indeed, now be hoped for as a future triumph, but a greater, and—more important still—a more universal reduction of mortality must first be secured. Meanwhile, it is much that fetal life is already being saved, and the field of craniotomy reduced to those cases in which the risk of that operation to the mother in skilful hands is trivial.

An opprobrium to the obstetric art as great as Cesarean section has been the impossibility of guarding patients having an extra-uterine fetation from the enormous risks of that condition, either by waiting upon Nature, or by primary operation. Here, also, much progress has been made, though more yet remains in the region of hope. In Cesarean section Germany may, perhaps, always retain the lead which she has obtained, partly on account of the greater frequency of contracted pelves in that country than in England or America; partly because, on the Continent, it has been usual to estimate more highly than in Britain the value of fetal life, as balanced against a degree of increased risk to the mother. In the treatment of extra-uterine fetation we may claim that this country has taken as leading a position as in other departments of abdominal surgery. I remember it being urged not many years ago, in this Society—not as a fact ever tested by experience, but only as a theoretical proposition—that, in a ruptured tubal fetation, the right treatment would be to perform abdominal section and remove the fetal sac. Now, cases so treated with success are being multiplied. In most of them, it is true, the operation has been performed after the primary collapse has passed off, and the patient has been saved from subsequent secondary risk, rather than from immediate death by hemorrhage. But there have been cases of success, even in the stage of primary bleeding. We have already advanced so far that the risks of extra-uterine fetation may be regarded as greatly reduced, provided only an early diagnosis can be made.

Even in the far more formidable case of extra uterine fetation in the latter months of pregnancy, opinions are turning again in favor of the primary operation, which had been almost abandoned as too disastrous to attempt. Only five years ago it was estimated that out of twenty-four primary operations at such a stage of pregnancy, only one mother had survived. This was the patient operated on by Mr. Jessop, who had a very narrow escape. But many of these cases, though they seem to tell in statistics against a primary operation, ought really to be regarded as in favor of it, because they were undertaken only because the patient had become moribund under the expectant plan. Recently our late president has given us an excellent example of success to follow. This much can already be said with assurance: whenever the fetal sac can be opened without the peritoneal cavity, or when the opening in it can be securely stitched to the abdominal wall, results ought to be far more favorable in future. One or other of the possibilities may be reckoned on in these cases of intra-ligamentous pregnancy, which have only lately been

recognized as a separate and comparatively common variety, and which do not yet appear in the nomenclature of the Royal College of Physicians. Where the fetus is found free among intestines, or covered only with a thin amnion, probably the risk from decomposition of the placenta, if not from hemorrhage, must always remain very great.

I should claim little for this treatment of extra-uterine fetation in the earlier months by faradization, though it has been so highly praised in America. Since diagnosis is then often uncertain, and since an extra-uterine fetus often dies without any treatment, this is a case in which I think that less importance should be attached to so-called positive evidence than to the negative evidence that, when fetal life is proved, the most vigorous and perserving attacks may be made upon it by faradization without impairing its vigor in the smallest degree, as I have myself tested.

Another advance, which must be regarded as of greater importance than either of those which I have mentioned, in view of the possibly widespread saving of maternal life which it may effect, is the application of antiseptics to midwifery. A series of improvements culminated in the use of perchloride of mercury as an antiseptic, and the transformation as regards lying-in hospitals is already complete. It used to be considered, with justice, that it was safer for a woman to be delivered in the most miserable and insanitary hovel than in the most palatial and well regulated lying-in hospital. Now, it has been found possible to reduce the total mortality in lying-in hospitals as low as 5 or even 4 per 1,000, with an almost complete banishment of septic disturbances, and they are, therefore, as safe as any other place for delivery.

There is, however, a curious chapter in the history of the mortality of lying-in hospitals which has, I think, generally escaped notice, and which deserves attention, although I am unable to offer any explanation of it. In the closing years of the last century, a remarkable improvement was attained in the death rate of, at any rate, some lying-in hospitals. It was ascribed to the improved knowledge of hygiene, and was celebrated in glowing terms, such as might now be applied to the results of the most fashionable modern antiseptics. At the British Lying-in Hospital the deaths per 1,000, which for the decennial periods between 1749 and 1788 had varied from 16.5 to 23.6 fell in the decennium 1789-1800 to 3.2, though the number of women delivered was greater than before, namely; 6,677, a result which surpasses even the best attained in lying-in hospitals at present. At the City of London Lying-in Hospital, the mortality from 1790 to 1800 was only 5.7 per 1,000, from 1800 to 1810 only 4.3 per 1,000. The following quotation from Dr. Guy's lectures on Public Health will show how these facts were regarded:

"Perhaps I cannot better exhibit the improvement that took place in the latter half of the (eighteenth) century than by giving you the figures of the British Lying-in Hospital for the first and last twelve years of that period of fifty years. There died in the first twelve years more than 1 in 15 children, in the last twelve, less than 1 in 82. And, as I have before me the deaths of the mothers for the same year, I may state that while the death-rate for the first 12 years was 1 in 38, it was only 1 in 318 for the last twelve. These figures show a reduction of mortality in an institution which must have commanded the best medical skill and best nursing of the whole period under review, of more than fivefold of children, and more than eightfold for their mothers. In this reduction sanitary improvements in space, ventilation, and cleanliness must have borne a very considerable part."

Yet these brilliant results proved only transitory, and puerperal fever soon resumed its fatal ravages. In 1865-1875 the mortality of the British Lying-in Hospital was again as high as 19.4 per 1,000, that of the City of London Lying-in Hospital was 14.3 per 1,000, that of Queen Charlotte's Lying-in Hospital 22.3 per 1,000. At the Rotunda Hospital, Dublin, the improvement was not so marked in proportion to the old results, but the retrogression was quite as manifest. In 1791-1800

the mortality was only 8.8 per 1,000, in 1801-1810 only 9.7 per 1,000, but in the decennia from 1811 to 1875 it varied from 13.1 to 32.7 per 1,000.

We who are believers in antiseptics must be somewhat startled at these results obtained in the period from 1790 to 1810 by ordinary cleanliness and hygiene, before Semmelweis had enlightened the world as to the true nature of puerperal fever, and be puzzled to explain why they could not be maintained. With our present views of the nature and treatment of puerperal fever, we can scarcely suppose that the low mortality depended upon the treatment then in vogue for that disease, when it had arisen. The midwifery textbooks of the day recommend bleeding and emetics at the outset; later, antimony in the form of James' powder, and purging to to the extent of producing four or five stools daily. The following passage occurs both in the 1798 and in the 1832 edition of Denman's *Practice of Midwifery*. "I have very rarely attempted to inject medicines of any kind into the vagina or uterus, though, from a consideration of the probably state of the parts and of the fetid humors discharged, it is reasonable to think that emollient or gently detergent injections might sometimes be useful. But the helpless state of the patient is such as to render the operation itself very troublesome; and, if they are advised, great caution will be necessary both in their composition and administration; but fomentations to the external parts have, I think, sometimes afforded comfort, and been of service."

Whatever may be the explanation of the retrogression in the sanitary condition of the lying-in hospitals after 1810, it can hardly be doubted that we are now upon a firmer foundation. The improvement is far more widespread in different countries, and the means by which it is attained are better understood. The hope may now be entertained that modern antiseptic methods would suffice to render healthy even a lying-in ward in a general hospital, though it is premature to s eak positively on the subject until the experiment has been tried. It is needless to say how valuable a small ward of this kind would be in a great medical school both for the advance of science and the education of students. Many medical men must look back with somewhat of horror upon their attendance upon a case of midwifery. A student is fortunate if, through the aid of his fellow-students in charge of cases, he has learnt practically beforehand to discover the os uteri in labor. Happily nature suffices for delivery in normal case, and skilled aid is readily procured; so the patients do not suffer, as the statistics show. But if students could be instructed practically in the process of labor by competent teachers before taking charge of a case, they would be likely to make better use of their experience afterward.

It is a far more important question how far the extension of antiseptic midwifery is likely to obtain for the country at large a reduction of puerperal mortality and morbidity at all comparable to that secured in lying-in hospitals. So great a reduction is not indeed likely, because the lying-in hospitals were the favorite home of puerperal fever. But even throughout the country, acknowledged puerperal fever, as returned to the Registrar-General, is responsible for more than half of the whole childbed mortality; and it may reasonably be suspected that septicemia has to do with many deaths, not so diagnosed or not so returned. A reduction in puerperal septicemia is therefore of enormous importance.

I think it probable that the decision of this question may throw light upon points yet obscure in the nature of puerperal fever. It by no means solves the question completely to say that puerperal fever is simply septicemia. Of the microbes capable of multiplying in the body, those which can enter without a wound have naturally more frequent opportunities for displaying their effects; and, producing generally a definite set of symptoms, constitute some named zymotic disease. Microbes which can only enter through a wound are all massed together as yet under the titles of septicemia and pyemia, though as many as fifteen different species of microbes at least

have been described as the essential cause of different forms of septicemia in men and animals.

The recognition of the importance of microbes in puerperal fever has led many to regard as obsolete the old classification into autogenetic and heterogenetic puerperal fever; and doubtless it is now the most important lesson to impress upon practitioners that all puerperal fever is, in a sense, heterogenetic, since the germs must have come originally from without. Yet it remains a question of vital importance whether microbes constantly or commonly present, or only rare and virulent ones, are the active agents; and again, whether common microbes, which are generally innocuous, can be so cultivated in fertile soil as to become virulent.

Experience has shown that in abdominal surgery, it is not of so much importance to destroy microbes as to avoid leaving any nidus for them in the shape of damaged tissue, or sanguineous effusion. It should not be forgotten that the same principle has its application in midwifery. Not even the use of the most fashionable antiseptic of the day would be a sufficient compensation for allowing unnecessary lacerations of cervix or perineum, for omitting to secure good contraction of the uterus, for leaving a ruptured perineum unsewn, or for bruising tissues needlessly in operations. But the special success in lying-in hospitals of the one particular antiseptic, perchloride of mercury, beyond all others, seems to indicate that the balance of importance is somewhat different in midwifery and in abdominal section; and that, in lying-in hospitals a any rate, there are likely to be virulent microbes, which ought to be destroyed.

Whether the same principle applies to the prevention of sporadic cases of puerperal fever in private practice can only be ascertained by a trial of antiseptic midwifery by all practitioners on a scale which has not, I believe, been attempted in this country. The use of perchloride of mercury for internal douches, as employed in lying-in hospitals, would indeed probably involve the risk of doing more harm than good, through its occasionally producing poisonous effects. Fortunately there is reason to believe that this is not the most important part of antiseptic midwifery. We are told that a drop of normal mucus from the cervix of a woman at the end of pregnancy, when drawn with a sterilized platinum rod across nutrient jelly, may produce as many as two hundred colonies of various forms of bacteria. All who have tried to render the vagina aseptic, in the sense of being sterilized, for gynecological operations, will know how difficult this is to accomplish.

This is brought out strikingly by the recent researches of Steffeck. No number of douches of perchloride of mercury will render the vagina aseptic at the end of pregnancy. To effect such a result, it is necessary to scrub vigorously with two fingers not only the vagina but the inside of the cervix, while a douche of at least a litre of the antiseptic is being used. Even this produces only a momentary effect, unless it is followed up afterward by the use of at least four or five douches at intervals. It may be doubted if the vagina is ever sterilized so as to satisfy the more severe practical test of leaving therein for several days a glass tube containing bloody discharge, without decomposition occurring in it.

I think we may conclude that the microbes commonly present are generally innocuous, and that, in lying-in hospitals at least, and probably elsewhere as well, what has to be done is to prevent the entrance of virulent ones. I would venture to urge on all practitioners the importance of providing for themselves and the nurse the most efficacious antiseptic known, namely; perchloride of mercury, of a strength not less than 1 in 1,000. This should be used for hands, catheters, and any cotton-wool or sponges used for external washing; disinfection of the accoucheur's hands being the most important thing of all. Even the most complete unbelievers in antiseptics, if any such remain, must admit that this cannot possibly do any harm, and involves merely a little extra trouble. One practical detail is of importance. No one

should trust to any tablets or powders of perchloride of mercury without testing them in dilute solution in the water of the district. It is obvious that, if the slightest milkiness is produced, it is impossible to tell how much of, or whether any of, the antiseptic remains efficacious. A concentrated solution made with a little glycerine and dilute hydrochloric acid in distilled water is more reliable,and has the advantage of the increased efficacy which the acid gives to the antiseptic in the presence of organic matter. The trouble of carrying a liquid is hardly greater than the trouble of carrying dissolving tablets. As regards vaginal douches, my own view is strongly in favor of their routine use, with some efficacious but less poisonous antiseptic, such as carbolic acid; but I admit that this matter is open to difference of opinion, and that they are better omitted in normal cases, unless they can be used regularly by a competent person.

In most of the States of Germany stringent laws have been enacted for the use of antiseptics by midwives; and there is a general impression among German Obstetricians that the conveyance of puerperal septicemia has much diminished in consequence. I am informed, however, by Professors Leopold and Sanger, that, in Saxony, at any rate, there has not as yet been manifest any appreciable diminution of the general puerperal mortality. Nearly one-half of the deaths in childbed are still ascribed to septicemia. Fischel infers from Dohrn's statistics that the laws relating to midwives have not yet produced an improvement in childbed mortality in any German State as a whole, though they may have done so in individual towns. It is an obvious consideration that no laws can enforce the efficient use of antiseptics, however much they may prescribe them. We may at any rate console ourselves with the reflection that, unless death-registration is more delusive in England than abroad, our childbed mortality remains lower than that of either Germany or Austria.

Though the returns of the Registrar-General in England are thought not to indicate the whole mortality, they may afford basis for comparison of different periods. They seem to show some improvement of late. The mean mortality of childbirth for 39 years, 1847 1885, is given as 4.82 per 1,000; but for the last ten years of that period as only 4.45 per 1,000. Yet as ragards puerperal fever the report is not altogether satisfactory. Since the year 1881, when a more stringent systen was introduced by the registrar, of sending for further information as to previous parturition, whenever the death of a women was returned as due to peritonitis, considerably more than half of the total mortality in childbirth is set down to puerperal fever, the minimum for the years 1881-1885 being 2.58 per 1.000. I think this affords ample ground for urging a more stringent use of antiseptics.

Meanwhile, a valuable experiment may be tried in the maternity charities of our great medical schools, the conditions in which approximate to those in private practice. In the charities of Guy's and St. Thomas's Hospitals, and, I doubt not, in others also, the use of perchloride of mercury is already being enforced. It must not be forgotten that the results here obtained, without any constant or systematic usé of antiseptics, already equal or surpass even the best results of antiseptics in lying-in hospitals, and have steadily improved. Thus the mortality for the last ten years in the Guy's Charity was 3.4 per 1000, for the preceding twelve years 4.4 per 1,000, for the first twenty-one years recorded 7.1 per 1,000. But here again more than half the deaths are still set down to puerperal fever. If a material reduction of this mortality through a more stringent antiseptis can be proved, it will be an enormous stimulus to the adoption of similar precautions by all practitioners.

Another problem, not yet fully solved with regard to puerperal fever is its relation to zymotic diseases. Though it has been a widespread opinion in this country that puerperal fever may originate from the infection of scarlatina, this opinion must be regarded as shaken by recent evidence. It is worthy

of note that recent researches attribute the secondary lesions of scarlatina itself, such as those of the ear and the joints, to a mixed infection by another species of microbes. It is possible that, in the theory of mixed infection, may be found some solution of the problem. Dr. Boxall's account of scarlatina in the General Lying-in Hospital suggests the hope that, if complicating septicemia can be excluded, scarlatina may lose much of its terror for the lying-in woman. Yet further evidence is to be desired. For a single epidemic may be of mild type; and even long before the days of antiseptic midwifery, a series of nine cases of scarlatina in Queen Charlotte's Lying-in Hospital was recorded by Brown, in which there was no mortality, and from which no septicemia resulted. I would suggest that records of erysipelas occurring in lying-in women are especially desirable; for erysipelas has been thought to be yet more closely allied to septicemia and puerperal fever than scarlatina, and yet it is a zymotic disease, and is considered to depend upon a definite and discoverable microbe.

We have still to look to bacteriologists for some light upon the infectious character of puerperal fever. We hear of staphylococcus pyogenes aureus, streptococcus tenuis, and staphylococcus pyogenes albus being found. But these are comparatively common microbes, found frequently in mild and local suppurations. Unless they can acquire virulence by their growth in the puerperal woman, it is difficult to understand that they can account for such intense infection that, in the days before the need of caution was recognized, instances occurred like that of the midwife who, within one month, delivered thirty-one women, of whom seventeen died of puerperal fever.

To the progress of gynecology one of the greatest obstacles has been the difficulty of studying the morbid anatomy of the diseases of women. Most of these diseases are chronic complaints, which rarely prove fatal. Moreover, women much more rarely die during the active period of sexual life than men of a similar age, unless it is either from the effects of conception, from some acute zymotic disease, which modifies the tissues, or from chronic phthisis, which suspends the sexual functions; hence the difficulty which has been found in obtaining accurate evidence, even of the physiological states of the uterine mucous membrane during the memstrual cycle. Another difficulty of pathological study has been the fear of obstetricians that they might carry infection from the post-mortem room to their patients.

The recent extension of abdominal section in the treatment of diseases of women, while it has not been free from drawbacks and exaggerations, has, at any rate, advanced our knowledge of many complaints and put many popular theories to the test. We have learnt much, not only about inflammatory diseases of the Fallopian tubes, but about tubo-ovarian cysts, papilloma of the Fallopian tubes, and the pathology of ovarian growths in their earliest stages. Even if the enthusiasm of a surgeon for new and heroic modes of treatment leads him to operate needlessly, though some patients are the sufferers, science is not always without some compensatory advantage. Yet further improvement of our knowledge of pathology is to be expected from this direct mode of exploration in certain diseases.

In connection with this subject, I may congratulate the Society upon a reform which has taken place in London, and, I believe, in the provinces also—namely, the removal of restrictions upon the performance of abdominal operations by obstetric physicians at many of our great hospitals. Within the last four years such restrictions have been removed at five important medical schools in London, and there remains only one great hospital in which they are still perpetuated. Such a change, I believe, could not but happen sooner or later, in consequence of the extended field of abdominal section both in midwifery and the diseases of women; but the manner in which it has come about is a source of gratification in two respects. In the first place, it has been due, I believe, in all instances, not to any intervention of governors or other lay

authorities, but to the good feeling of our medical and surgical colleagues. In the second place, the argument which has told most powerfully with our colleagues has been the favorable results obtained by those obstetric physicians in London who were earlier in obtaining the concession. Although, with perhaps almost an excess of modesty, they published no lists of their achievements, their success became known, and proved that it could not be maintained that obstetricians need be less competent operators than surgeons. Science can hardly fail to be the gainer through the increased number of observers. We shall have the less excuse if we fail to hold the balance fairly between the tempting prospect of rapid cure, at the expense of some physiological drawback and some risk to life, and the often wearisome treatment by less heroic means.

There are other subjects in which our knowledge of physiology is still defective,but in which further information can be obtained from the post-mortem room alone. Abdominal section has revealed much about the ovaries and Fallopian tubes—comparatively little about the uterus. But little is known of the histology of corporeal endometritis, apart from that form it which causes hemorrhage. It is still a matter of dispute how far it is right to describe such a disease as chronic metritis, apart from endometritis.

Other problems, again, cannot be solved by abdominal section alone, without careful comparison with the results of observations in the post-mortem room. I refer to such questions as the following: How far does chronic ovarian pain, in the presence of some disorder also of the uterus, justify a diagnosis of chronic ovaritis? To what extent are ovaries enlarged by many dilated follicles, or small and indurated with atrophy of follicles, to be regarded as pathological conditions, and as the source of important symptoms?

I have ventured to point out some subjects on which I think research especially desirable; but in looking forward to the work of the year, I know that the active workers, so many of whom our Society is proud to possess, need no guidance, and that the contributions of the future will not fall short of those of the past in their scientific value.—*Brit. Med. Jour.*

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## ACUTE EXACERBATIONS DURING CHRONIC BRONCHITIS.

C. Clark Burman, L. R. C. P., F. R. C. S., Edin., (*Provincial Med. Jour.* for March), in an able original paper on Suggestions for the More Rational Therapeutical Treatment of Respiratory Affections, says: "I take this part of the subject here, though it would perhaps more appropriately fall under chronic bronchitis;but I intend my remarks upon chronic bronchitis to be more general than particular, especially as it would be impossible to enter upon the consideration of the different forms of the disease, as well as the manifold complications and accompaniments, in a paper of this description. I wish to point out not so much the plan of treatment to be carried out, but rather to suggest additions, in the form of drugs which we have found to possess so marked an influence upon the respiratory center, and also to emphasize the dangers of other drugs whose action is decidedly unfavorable, and to urge their discontinuance. The objection urged by the advocates of such drugs, that the conditions at times become so marked as to render their use imperative, may be readily met by showing that the fault lies in allowing these conditions to become so imperative, as also showing how, if already existing, they may be subdued without resort to sedatives, and if sedatives are absolutely indicated, then the method of guarding them, so that their good effects are allowed to take place without permitting their almost greater dangers to become apparent. 'As no acute catarrh is so liable to frequent relapses, and exhibits such a tendency to become habitual, as that affecting the air passages, so also the chronic form is liable either to relapse into acute inflammation with augmentation of intensity, or, on the other hand, to degenerate into blennorrhea.' (Rokitanski.)

"The importance of these acute excerbations

lies in the same fact as we found in bronchopneumonia, that the patient is already debilitated by his previous illness, and not in a position to stand the action of potent, depressant remedies. Hence, our line is decidedly that of stimulation, not so much general as special. While it may be necessary to administer alcoholic beverages, we attack the already weakened respiratory center by means of carbonate of ammonia, belladonna, or nux vomica as the case may be, though it may, perhaps, be judicious in the first place to reduce the turgescence of the already chronically thickened bronchial mucous membrane by means of iodide of potassium, with acetate of ammonia, if the pulse be good, or ipecacuanha wine in the place of the iodide if the pulse be feeble. In these cases we can resort to the stimulating expectorants at an earlier stage than in ordinary acute attacks. There is one thing of importance in connection with the administration of purgatives to chronic bronchitic patients with acute excerbation. No doubt purgation may be very useful as a derivative, but the consequent exposure and liability to fresh cold must not be overlooked. Having overcome the comparatively short first stage in these cases, we have now to consider the indications for assisting the weakened respiratory act, so that the additional secretion shall be effectually dislodged and removed. For this purpose the drugs already named will have to be relied upon. The greater the amount of secretion we can remove, the better for our prtient since there is to be considered the long-standing bronchial thickening, which of itself is interfering with the admission of air. When the secretion is excessive, and accumulates faster than the act of coughing suffices for its removal, emetics are to be given, but the state of the heart is not to be forgotten, and an emetic which acts speedily, leaving little depression, must be used; propably sulphate of zinc is the best. This may be followed up by a mixture such as:

℞ Liq. atropia sulphat. - ♏j–ij.
Liq. ammon. anisat. (P. Pruss) ♏xv–xx
Aquam. - - ad ℥j ter in die.

"Or, if no vesical irritability exists, a combination of:

℞ Ammon. carb. - - - - gr.v.
Tinc. nux vom. - - - ♏jx.
Tinc. scillæ - - - - ♏xx.
Infus. serpentariæ - ad ℥j ter in die.

"'Senega is not to be used while any acute manifestations are in existence. It is one of the most stimulant substances of its class. Serpentaria is much preferable, and is decidedly superior in the matter of taste.' (Fothergill.)

"Where we find the respirations mounting in frequency, with increasing cyanosis, especially if the case is one with cardiac complications, we must push strychnia and digitalis with alcoholic stimulants; and our guide must be the state of the respiration. As its rate comes nearer to normal, so we reduce our dose, or give it less frequently; and we must remember that 'strychnia slows the respiration' as 'digitalis slows the circulation,' the slowing is a part of the improvement—the improvement does not rest on the slowing.

"Before leaving this subject I must again allude to acute bronchitic attacks occurring in gouty subjects. Here, while we treat the bronchitis, the causual relationship of the gouty diathesis is to be attacked in addition; and alkalies must be freely administered, not only with our 'first stage' remedies, but later on also; and it may be remembered I remarked that perhaps this action of the bronchial mucous membrane might partake of a vicarious nature. We may assist this effort of nature by remedies which will make the respiratory act more effectual, but our chief hopes lie in relieving the toxic condition of the blood by reducing the nitrogenous ingesta and by bringing skin and bowels to the aid of the functionally imperfect kidneys. While on this subject I am reminded of the dangers of giving opium in acute attacks of gout when pain is so marked a symptom.

"The powerful restrictive action, so to speak, of opium upon the functional activity of the liver and kidneys makes it a dangerous drug to use, and this danger is intensified if we

have any respiratory disorder co-existing. Chloral, from its depressing action on the vascular system, would, upon theoretical grounds, be safer, and probably, if no respiratory embarrassment accompanied the attack, would be admissible; but my experience is strongly in favor of the hypodermic injection of morphia combined with atropia.

"When speaking of asthma, I quoted the experience of Dr. Oliver, as recorded by him in the *Practitioner* for January, 1876. No doubt the atropia is indicated, since we wish to increase the inspiratory power which is struggling to get the mastery of the bronchial spasm. The tendency of morphia is decidedly favorable to the reduction of the nervous energy causing the spasm, but its action upon the respiratory center is that of a depressant, and at such a time depression is far from desirable. What the atropia does is to allow the morphia full scope in so far as the spasm is concerned; while its depressant tendencies are thoroughly counteracted by the atropia. In fact, some authorities recommend the hypodermic injection of atropia alone, whereby the respiratory act is so strengthened as to become the victor over the spasm; but in my opinion, the combination of the two drugs is better, since a smaller dose of each is required.

"I have for several years given up using a solution of morphia alone for all hypodermic purposes; but my experience is that I rarely now find a patient suffer from vomiting or headache, which so frequently occurred when I used morphia alone; and since it is much more convenient to have one solution for all cases, I think its advantages are still further increased.

"The solution I use contains $\frac{1}{8}$ gr. acetate of morphia, and $^1/_{120}$ gr. of atropia in five minims; and this quantity in most cases proves effectual. In a case of acute gout affecting the right knee-joint, I used to administer one and sometimes two injections per diem for some time, and upon no occasion did any unpleasant symptom follow its use. I should have hesitated to have given an equivalent amount of opium by the mouth. The combination materially adds to its usefulness, and is quite applicable in any case in which morphia in this manner seems to be indicated. I know that since I have used this combination, the occasions upon which my "needle" has been called into reqnisition have been much more numerous than before, because the after effects are almost unnoticeable."—*Med. Reg.*

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## ERRORS IN INFANT FEEDING.

In a recent editorial on skin diseases we expressed our opinion that in a large class of them the principal part of the treatment consisted in correcting the gross mistakes in diet to which many of them might undoubtedly be attributed. In the present article we shall point out what those errors are.

What we have to say on this subject seems so palpably true that we should almost apologize to our readers for saying it, did we not know for a positive fact that many practitioners have very loose and indefinite ideas as to what constitutes the proper feeding of infants and children. For instance, one of our esteemed confreres in extensive practice told us not long ago that he allowed his children to eat all day long, which he considered better than giving them regular meals, as by the latter plan they were apt to have "pot bellies," owing to the large quantities they would eat at a time. Moreover, we frequently see in medical works the advice given to feed our patients "little and often."

Not only do we agree with Sir Henry Thompson in his splendid paper in the *Nineteenth Century* on the feeding of the aged when he says that many a valued life has been cut prematurely off by the mistaken kindness of the loving wife and daughter who urge their victim to take more food than he can possibly consume, but we maintain that many a thousand infant and child is hurried to an early grave through the mistaken love of its mother.

In Montreal, which is among the healthiest cities in the world, but which apparently has one of the largest death rates (28 per thous-

and), the high mortality figures are almost entirely due to the reckless manner in which infants are fed.

The extraordinary fecundity of the French-Canadian people is proverbial. It is an exception to find a family among them numbering less than twelve, while fifteen and twenty children are quite common occurrences. But it is quite as usual for them to lose half of their offsprings before the age of five years. We are in a position to state positively that this enormous death rate is entirely due to improper feeding.

These mistakes in feeding begin almost at the hour of birth, and continue for those who successfully run the gauntlet until the age of five or six, when they are saved further danger by being sent to school. While the accoucheur is attending to the after-birth, some old woman has carried the infant into the adjoining room and surreptitiously administered a mixture of butter and dirty brown sugar, which sets up acid fermentation in the baby's stomach.

Then instead of putting the infant to the breast, as nature meant should be done, as soon as born, it is kept away from the breast for three days, thereby depriving it of the benefits of the colostrum which would have cleaned out the meconium from the digestive tract and had the latter sweet and clean for the reception of the first milk. On the contrary, the butter and sugar has been followed up by some starchy or sugary liquid which keeps up the merry fermentation until the little bowels are bursting with carbonic acid and other gas, and the infant screams with pain. These cries are of course mistaken for hunger, when it gets another dose, perhaps every quarter of an hour. When it is put to the breast the alkaline milk is immediately soured, and the child vomits the curdled casein in lumps. At this stage its life is sometimes saved by a dose of castor oil which cleans out the digestive track and gives it a fresh start. But every time it cries it will surely be nursed, "little and often." Now let us ask, what takes place in the stomach when a child is fed, let us say every quarter of an hour, which has been the average interval in many cases to our knowledge?

Will the digestion of the first lot be completed and out of the stomach in a quarter of an hour? Certainly not. Will the entrance of the second and third lots interfere with the digestion of the first? We would like to hear this question answered by one more competent to do so, but common sense tells us that they will, and that the whole process must be begun over again as often as a fresh supply comes in.

The horrors of the feeding bottle with a long rubber tube are, we presume, sufficiently well understood. On passing a druggist's window the other day we noticed a gross of them stacked up as an advertisement; but the image of the bottles was soon replaced by the vision of a hundred little coffins filled next July with their little wasted occupants.

In one of the out-patient's rooms of a Berlin clinic the walls are decorated with nearly three hundred feeding bottles with rubber tubes which have been taken from the mothers of sick infants as the preliminary step toward saving the latters' lives. The habit of irregular feeding is continued as the infant grows, so that many children never eat a regular meal. The mother's excuse for the wrong doing is, that as the child did not eat its dinner she could not refuse it a cake an hour later. And when it is hungry again an hour before tea, instead of letting it wait until the regular meal hour, it receives another cake, with the result that the evening meal is not eaten. So that in exchange for a miserable little tart or cake the appetite for a good substantial meal is thrown away three times a day.

One often hears it said that "homeopaths are so successful with children," and if homeopathy consists in giving advice without medicine, and regular-pathy means giving medicine without advice (as it sometimes does), then their success is easily understood. We think that the fact is general that the longer a doctor is in practice the less he pins his faith to drugs and the more he relies upon hygiene for the cure of his patients. And it

is well that it is so when we consider that most of the diseases of infancy and childhood are directly or indirectly due to errors in feeding, the grossest error of all being eating between meals.—Ed. *Can. Med. Rec.*

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## A CURE FOR CONSTIPATION.

BY SAMUEL BENTON, L.R.C.P. (LON.), M.R.C.S. AND L.M. (ENG.)

(Abstract of an address before the West London Medico-Chirurgical Society.)

Habitual constipation is of such frequent occurrence, and leads to so many disorders of health, that I bring before the Fellows of this Society a form of treatment which, in certain cases, will be found successful.

Drastic purgatives and saline cathartics taken by the mouth often aggravate the trouble, and produce sluggishness of function; this is also the case with the large fluid enemata in general use on the Continent.

Habitual constipation arises from different causes, notably, want of attention to the daily evacuation of the bowels, deficient peristaltic action of the intestines with impaired organic nervous power of the digestive canal, the fear of pain at stool, and torpidity of the liver.

When we consider how readily appropriate nourishment is absorbed into the system through the rectum, it naturally follows that suitable medicines can be similarly introduced.

Dr. A. Oidtmann, of Mastricht, in Holland, who devotes himself largely to the diseases of women and children, has for some years treated constipation by means of injecting purgatives.

This diminutive syringe holds about two drachms of fluid, which can be readily self-administered, the concavity of the nozzle being directed backward to suit the curve of the sacrum.

The preparation contains:

℞ Glycerin, - - - ʒj.
Lemon juice,
Succus rhamni frangulæ, aa ʒss.

with a diminutive quantity of alcohol and acetic acid (1 in 800).

I have given this medicine an extensive trial, and have found it a most gentle and unirritating means of emptying the rectum.

In cases of fecal anemia causing chlorosis in young girls, such as described by Sir Andrew Clark, in his paper read before the Medical Society of London a few weeks ago, if a thimbleful of this fluid be injected into an empty rectum it is more than probable that in a short time peristaltic action will be set up in the large intestine and cause the colon to contract upon its contents, but it is a good plan to commence the treatment by massage of the abdomen. Afterward iron and magnesia may be given by the mouth.

I have ordered this fluid in numbers of cases as a preparatory treatment to rectal operation with the best results. In rectal ulcers it gives the patient less pain, and the nurses less trouble, than a large, watery enema. The fluid may be given to quite young children and babies, if diluted according to their age, and has for some time been in favor in Germany.

I commend this form of treatment to the general practitioner, and I think this instrument will be found a useful addition to the obstetric bag.—*Med. Reg.*

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Treatment of Acute Intestinal Obstruction.—Mr. Marmaduke Shield read a paper in which he said that in cases of acute intestinal obstruction, with the exception of certain cases of invagination, no one could with certainty diagnose the condition that really existed. The importance of first searching for external hernia could not be exaggerated. Three pathological conditions closely simulated intestinal obstruction—namely, acute peritonitis, perforative or otherwise, acute enteritis set up by irritating ingesta, rotation of an ovarian tumor on its pedicle. In no one of these was there true obstruction. Copious enemata were the first aids to diagnosis and treatment. The material used should be oil and milk, with a little assafetida should much flatus exist. If the

symptoms of acute obstruction should be marked, and the enameta properly given failed to more than evacuate the contents of the colon, it might be concluded that obstruction existed. Manipulation of the belly, with inversion of the patient, and galvanism of the abdominal walls, might be tried. If these measures failed, abdominal section gave the patient a chance of recovery. He knew of no pathological condition causing acute obstruction of the small bowel which was not remediable by operation. It was now well nigh agreed that no great danger occurred from opening the peritoneal cavity if only strict cleanliness were observed. The great principle must ever be kept in view, that if early operation was rejected, late operation could, as a rule, only hasten the inevitable end. Remarks were made by Professor Humphry, Mr. Wherry and others on the difficulties of diagnosing the intestinal obstruction from perforation, etc.—*Brit. Med. Jour.*

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Accidental Deaths Among Infants.—Infant mortality by accident and negligence is a marked figure in English statistics, especially in regard to the death of male infants. The annual summary of the Registrar-General for the year 1887 makes it clear that not only neglect in regard to infant life prevails, but that there is a ruthless sacrifice of it worthy of the days of Herod. In London more than half of all accidental deaths among males falls upon children under five years; among females, over three tenths. For all England, one-fourth of all deaths by accident among male falls upon those under five, and among females about the same proportion. But totals being next considered, there are nearly twice as many males as females registered as dying in this class, thus; males, all ages, 11,103 deaths; females, 4,415; total, both sexes, 15,518. Under five, males, 2,150; females; 1,712; total accidental infant mortality being 3,862.

The excessive loss of infant males in London and some other large cities had been studied and theorized upon not a little, but a satisfactory explanation of its causation has not yet been found. In it is one of those unsolved problems that stand up to challenge the efforts of the humane and philanthropic for the reduction of violent causes and for an increased watchfulness and care for infant life.—Ed. *Med. News.*

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An Active Emetic.—A correspondent of the *Brit. Med. Jour.*, says: Several of your correspondents have lately written on the use of apomorphine as an emetic admistered hypodermically in intoxication. I cannot see why such a doubtful remedy should be used when we have others more simple and effective. Years since, when in charge of a surveying party on French Creek, near the Alleghany Mountains, the drunken doctor of the village where we stayed the night, when in a state of semi-drunkenness, took a piece of carb. ammoniæ out of his surgery bottle and chewed it. The effect was almost magical. The contents of the stomach were quickly ejected, the usual depression not following,so that he was able to at once resume his debauch. Since then I have tried the remedy many times with great succes. The drunkard can generally be roused and got to swallow half a drachm of ammon. carb. dissolved in a wineglass of water, and if drunk off this will prove immediately effective as an emetic and restorer. The reason is obvious. The stomach is cleared, and the stimulating effect of the salt prevents the excessive depression usually following excess. Never having seen nor heard of this treatment being adopted in this country is my excuse for troubling you with this letter.

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As a result of some experiments made in the disinfection of the parturient canal in the Obstetrical Clinic in Leipzig, Dodorlein and Gunther (*Archiv. f. Gynekologie*, Berlin, 1889, xxxiv, 111) arrive at the following conclusions:

1. One douching of the vagina with a sublimate or carbolic acid solution achieves no certain disinfection.

2. The contact of the finger covered with

vaseline with the vagina and cervix hinders the action of disinfecting solutions on the mucous membrane.

3. A thorough disinfection of the vagina achieved by scouring the mucous membrane with a sublimate or carbolic acid solution leaves it dry and harsh.

4. By scouring and douching with a two per cent creolin solution one can at once free the genital canal of a pregnant woman from all germs. Creolin has none of the disadvantageous after-effects of either sublimate or carbolic acid solution.—*Prac.*

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Night Air.—An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul air from within. Most people prefer the latter—an unaccountable choice. What will they say if it is proved to be true that fully one-half of all the diseases we suffer from are occasioned by people sleeping with their windows shut? An open window most nights in the year cannot hurt any one. In great cities night air is often the best and purest to be had in twenty-four hours. I could better understand shutting the windows in town during the day than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to make night the best time for airing the patient. One of our highest medical authorities on consumption and climate has told me that the air of London is never so good at after 10 o'clock at night. Always air your room then from the outside air, if possible. Windows are made to open, doors are made to shut—a truth which seems extremely difficult of apprehension. Every room must be aired from without, every passage from within.—*Sanitary World.*

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The *Therapeutic Gazette* fires a broadside at Dr. Wm. A. Hammond and his newly opened sanitarium, which we hope will open up the question of physicians advertising. At present the law of the A. M. A. is so curiously constituted that it is ethical for the poorly paid specialist to advertise, but not for the wealthy family physician. What folly! Better have no law on the subject, and leave each to settle the question according to his own sense of propriety.—*Medical Times.*

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"Autogravure" reproductions of a memorial portrait of Sir William Jenner have been made and delivered to subscribers in England. There are few places on the civilized globe that these "autogravures" of Sir William would not be welcomed by the medical profession. It is to be hoped that some enterprising American firm will give the physicians of this country an opportunity to place upon the walls of their offices or dwellings a picture of one of the greatest benefactors of the human race who has lived in our day.

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## BOOK REVIEWS.

Cazeaux and Tarnier. "The Theory and Practice of Obstetrics." Eighth American Edition, Edited and Revised by Robt. J. Hess, M. D.

A copy of this admirable work comes from the publishers in excellent type and good form.

To endeavor to eulogize the classical work of Cazeaux and Tarnier would simply be a matter of supererogation, but the improvements in this later edition are such as to greatly enhance its value as a complete, practical and reliable guide to the obstetrician; and to justly merit an increase in the popularity with which it has been accepted by the profession in former years.

Part I. Treating of the female organs of generation is accurate, and at the same time lucid and comprehensive in the description of the structure and functions of every part of the organism connected with the process of generation.

The chapter on ovulation and menstruation is simply excellent.

Part IV. Pathology of Pregnancy is so comprehensive, full and practical that no one

who engages in obstetrical or gynecological practice can afford to be without it.

The same may be said of Part V.—Dystocia, and Part VII.—Obstetrical Operations.

Last, but not least, by any means, in importance or value, is the Appendix, by Paul F. Mundé, M.D., treating of hygiene and therapeutics of pregnancy, labor and the puerperal state; external obstetrical manipulation; antisepsis in obstetrics; puerperal fever; peritonitis and cellulitis; and many other subjects of vast practical importance among which as deserving of special mention is the chapter on Obstetric and Gynecic Jurisprudence.

Taken altogether we think no stronger or more thoroughly grounded practical treatise on this the highest branch of the science and art of medicine exists at the present time.

Another and a very acceptable salient and commendable feature of this work—is in the illustrations from original sketches with chromo-lithographs, lithographs and other full page plates, and nearly two hundred wood engravings, all of which are admirably executed, and their accuracy will prove a very material aid to the reader of the work in getting a true conception of the subject in hand.

J. B. P.

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WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. 1. No. 2. Feb., 1889.—Gonorrheal Infection in Women. By Wm. Japp Sinclair, M. A., M. D. On Giddiness. By Thos. Grainger Stewart, M. D. Albuminuria in Bright's Disease. By Dr. Pierre Jaenton. Wm. Wood & Co.

The second number of this new departure on the part of these publishers is at hand and is entirely in keeping with the high standard of medical literature aimed at and maintained by that firm. While not as elaborately gotten up, nor as handsomely bound as the Wood's Medical Library volumes have been, the typographical work is excellent, and for the reasons that they involve less cost, and at the same time one is not compelled to take the whole list to obtain what he wishes—these are not sold by subscription—the monographs will probably be much the more popular of the two works.

The first portion of this number treats of gonorrheal infection in women, and is without doubt the most complete and advanced exposition of that subject now in the English language. Most of the experimentation and investigation on this subject has been carried out by German investigators, and nearly all the papers that have appeared in the last few years descriptive of these experiments, and the deductions to which they have led have been in the German language, so that, as a matter of fact, our own literature has been much behind in this respect. It has been the endeavor of Dr. Sinclair to scan this vast amount of literature, sift, condense, appropriate and redress in our own tongue what he has found to be valuable and trustworthy. To this he has added largely from his own ripe experience, both in private and hospital practice.

Joining his own efforts with those of Nouggerath, whose work in this direction the author commends in the strongest terms, he dwells with especial emphasis on the frequency and serious nature of the consequences of gonorrhea in women, and shows the disposition of a large part of the profession—even of many of the leading lights—to pass or make light of this aspect of the affection.

The description of the mode of invasion of the tissue by the gonococci in the case of gonorrheal conjunctivitis of infants, originally given by Bumm, is clear and forcible, and because of the analogy existing between the two parts, explains in a beautiful manner many of the conflicting and confusing phenomena met with in the urethral inflammation. The "Mixed Infection" theory of Bumm is given the attention it deserves.

If one, after reading this monograph is not impressed with the importance of recognizing gonorrhea in its many and protean aspects as it occurs in women, then he is indeed either prejudiced against the inroads of progress or is unusually skeptical.

"Giddiness" is a subject which has received

but little attention from writers, at least, not what it deserves considering the amount of annoyance, discomfort, or even incapacity to which it subjects a person afflicted with it.

Therefore, if for no other reason, the comprehensive consideration which Dr. Stewart has given it is timely and welcome.This monograph is composed of lectures delivered by the author at the University of Edinburg, and no comment is necessary to testify to its worth.

The contribution of Dr. Jaenton affords no less scope than the other two for the presentation of new ideas aud recent progress in a new department which is ever laden with interest and instruction.

The first chapter is devoted to elucidation of the chemistry of the subject and the various later methods of testing for albumen are explained and their comparative value considered. Histories of cases are introduced for the purpose of showing the basis of the author's estimation of the diagnostic and prognostic value of albumen in the urine; and it is readily seen that he does not wholly agree with many of the generally accepted views in this connection.

The impress of originality and independence is stamped on the entire monograph, and as a concise review of the various phases of the subject of albuminuria, we would reccommend this as a success. It is one from which the busy practitioner may obtain much valuable information with the expenditure of a very small amount of time. B. L.

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Bacteriological Methods. C. J. Salomonsen: Bakteriologisk Teknik for Medicinere, 2 ed., 8vo, pp. 224, with 75 illustrations in the text. Copenhagen, P. G. Philipsen, 1889.

In these days of rapid development in all that pertains to the study of bacteria, new books are expected at short intervals, and each of them is likely to contain something not found in other accessible places. The concise and practical book before us is a second and completely revised edition of a pamphlet reprinted in 1885 from a Danish journal. Its author, a man of the scholarly character common in Danish scientific circles, has been a close observer of progress in this class of work since 1876, when he applied a very ingenious method to the isolation of germs in putrefying blood, now, however, better done by use of the solid media of Koch.

All persons who want to study bacteria cannot own the expensive apparatus of the German makers. One object of Salomonsen's book is to show how one possessed of a little ingenuity may dispense with much and yet do good work, as is demonstrated at his own laboratory in the botanic garden of Copenhagen. An English translation is to be looked for, which is likely to make the book more widely used than can be the case while it remains in the Danish language only. W. T.

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## BOOKS AND PAMPHLETS.

On the Relation of the Nasal and Neurotic Factors in the Etiology of Asthma. By. F. H. Bosworth, M.D., E. L. Shurley, M.D., W. H. Daly, M. D., Andrew H. Smith, M. D. Reprint from New York Medical Journal, Jan. 19, 1889.

The Comparative Merits of Tracheotomy and Intubation in the Treatment of Croup. By Geo. W. Gay, M. D. Cupples & Hurd, Boston, Mass., publishers. Price 25 cts.

Nervous Affections Following Injury. By Philip Coombs Knapp, A. M., M. D. Cupples & Hurd, Boston.

E. Merk's Index for 1889.

Das Hohenklim in Meteorologischer, Physiologischer und Therapeutischer Beziehung [High Altitude, in its Meteorological, Physiological and Therapeutical Relations]. By Dr. August Ladendorf, of St. Andreasberg. 1889. Eugen Grosser, Berlin.

Eleventh Annual Report of the Presbyterian Eye, Ear and Throat Hospital, 1007 East Baltimore St., Baltimore, Md.

On Some Mild Measures in the Treatment of Intra-Nasal Hypertrophies and Inflammations. By W. H. Daly, M. D., Pittsburg, Pa.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### SUCCESSFUL CASE OF NEPHRORRAPHY FOR FLOATING KIDNEY.

BY W. W. KEEN, M.D.,

Professor of Surgery in the Woman's Medical College of Pennsylvania.

Read before the Philadelphia County Medical Society, March 27, 1889.

Miss E. J. F., of Sunbury, Pa., æt. 35, height four feet eleven inches, weight ninety-two pounds, was sent to the Woman's Hospital on October 4, 1888, by Dr. Mary A. McCay, with a diagnosis of floating kidney. For the following notes I am indebted to Dr. Chapin and Dr. McKee, resident physicians. The patient was delicate as a child; menstruation began at 15, and was always painful and irregular. At 18 years of age she was thrown from a wagon, falling forward with considerable force on her chest and abdomen. Shortly after the fall she suffered with severe pain in the right side and a great deal of distress across the back. Menstruation ceased for six months, and was followed by dropsy and severe illness. There was frequent inclination to vomit, and a great deal of palpitation of the heart. In spite of constant medical attention, she dragged out a miserable existence. About seven years after the fall she noticed a movable tumor in the abdomen, which Dr. McCay believed to be a floating kidney.

*Present condition.*—Appetite and sleep poor; urine 1020, slightly alkaline, twenty-nine ounces in twenty-four hours, no albumen, no sugar. Heart and lungs normal; uterus retroflexed. In the right abdomen was a tumor, about the size of the kidney, which could be freely and easily pushed two or three inches to the left of the middle line back into the right lumbar region, or down into the right iliac fossa. Neither the hilum nor the blood-vessels could be distinctly made out. Percussion over the position of the right kidney showed a tympanitic note, the left renal dulness being distinct and normal. The tumor was evidently not connected with the uterus, ovary or liver.

*Operation.*—Oct. 26, 1888, ether was administered. An oblique incision was made at the outer border of the quadratus lumborum four inches long. So soon as the abdominal fat was discovered, search was made for the kidney. The colon was first found, but the kidney was absent from its normal position. Strong pressure being made on the abdominal tumor, it was partly pushed back into position, but could even then only be touched by the finger-tip. On separating the borders of the incision by retractors, it was seen to be a kidney bare of all fat. In order to replace it entirely, it had to be seized by a volsella. Seven carbolized silk sutures were next introduced by a Hagedorn needle, four posteriorly and three anteriorly, through the capsule and substance of the kidney, by which it was attached to the muscles and aponeurosis of the abdominal wall. Seven deep sutures of chromicised catgut were then introduced through the entire muscular wall of the loin, but they were not tied, as I intended that the wound should remain open for a few days, if not permanently, in order to produce cicatricial tissue between the kidney and the muscular wall. No provision for drainage was necessary of course. The wound was covered with an ample bichloride gauze dressing. Her recovery was entirely uneventful. Her highest temperature was

100.9°. The urine was entirely free from any blood, though the bladder was irritable, and the catheter had to be used for several days. The wound was so completely filled up within the first forty-eight hours that I removed the stitches that had been passed through the muscular wall. I kept her flat on her back for four weeks, when she was allowed to rise for a short time. There was considerable, apparently rheumatic, pain in the small of the back for three or four weeks after the operation, which disappeared and again reappeared, and which seemed to be benefited by salol. Seven weeks after the operation there was a moderate amount of albumin in the urine, which disappeared after the use of Basham's mixture for three weeks. Soon after she got out of bed, I tried the effect of a pad to support the kidney in front, but its use caused so much discomfort that I abandoned it, trusting wholly to the silk sutures and cicatricial tissue to hold the kidney in place. The tumor formerly discovered in the abdomen was entirely gone, and the normal renal dulness re-established, though a little lower down. She went home on January 5, 1889. I heard from her to-day, March 16, 1889, and she says: "My back is still weak, but the pain is fast disappearing. The kidney is still firmly anchored, and I am feeling better generally. Words cannot express my gratitude to you for what you have done for me."

Remarks. *First, the cause.*—A lax abdomen following frequent pregnancies has been supposed to be the origin of floating kidney, as it is of floating liver. In the case here narrated, the patient was unmarried, and the abdominal wall was not at all lax. Again, the absorption of the perinephritic fat has also been supposed to be a cause, but in this case as soon as the abdominal wall was penetrated, the perinephritic fat was at once encountered. But it was a noticeable fact that the kidney itself was entirely free from any fat. In other words, the fatty bed in which the kidney should lie was in its proper place, but the kidney was displaced and there was no fat on the kidney itself. It seems reasonable to conclude that the dislocation of the kidney was due to the fall at the age of eighteen, though the abdominal tumor was not discovered till seven years later. Landau, who has written the best monograph both upon floating kidney and floating liver, states that of 314 cases of floating kidney, 273 were in women as against 41 in men. In 178 cases, it existed on the right side in 151, on the left in 13, and in 14 on both sides. The present case being in a woman, and upon the right side, emphasizes still further his statistics.

*Secondly, the symptoms.*—Digestive disturbances, especially constipation and very fetid breath, were not marked, though they were present to a moderate degree. The chief trouble was pain and constant discomfort, which was not only physical, but mental, the very existence of the tumor being a source of constant worry. The tumor itself was not especially tender to the touch, but it created a constant aching pain. Neither the hilum nor the pulsating renal artery could be distinctly made out, but the character of the tumor and the altered renal dulness made the diagnosis quite clear.

*Thirdly, the treatment.*—Recumbency alone has been advised by Landau, but this seems to me altogether too expectant. Only the most sanguine could believe that by this treatment, if such it can be called, a kidney would resume its normal position and quietly continue there sufficiently long for the adhesions to be re-established with any prospect of permanency.

I did not try any treatment by pad or bandage, as the patient was from a distance and could not remain the long time necessary to decide whether such palliative treatment would answer. On the other hand, extirpation of the organ was equally foreign from my thoughts. In my opinion, this should only be done after failure of an attempt at fixation. The danger to life of a floating kidney is absolutely nil. It is, therefore, only to remedy the discomfort that exists that we operate. Hence, I do not think extirpation at all justifiable unless we first attempt to fix it in situ, and having so failed, it is only justifi-

able even then in case the discomfort is very great. Dr. Maurice H. Richardson, who has published an excellent paper with a full bibliography, quotes from Brodeur the following figures: Of 235 nephrectomies, 125 were done by lumbar incision, with 47 deaths (37.6 per cent), 110 by abdominal incision, with 55 deaths (50 per cent). As against this large mortality from nephrectomy, however, Gross has collected 17 cases of nephorraphy, with only 1 death, a mortality of only 6 per cent. It should be added also, that in the fatal case the surgeon passed the stitches around the twelfth rib, a procedure that is absolutely needless as well as dangerous.

Hahn first proposed fixation for a floating kidney by operative procedure, and practically perfected the operation. The operation is simple: The patient being laid on the side, an oblique incision is made at the outer border of the quadratus lumborum. The edge of this muscle being recognized, the perinephritic fat is found immediately in front of it, at its outer border. This fat, having been cut or torn through, the kidney may be seen at once, but if it is very movable, it may be so far displaced as not to be seen, or as in the present case, may be even felt with difficulty by the tip of the finger, even when an assistant pressed it firmly back through the abdominal wall.

Mr. H. Morris makes a distinction between a kidney which has no mesonephron but moves about freely behind the peritoneum, this being called "movable kidney," and a "floating kidney" which does possess a mesonephron, and therefore floats freely in the peritoneal cavity. In cases, therefore, of a strictly floating kidney, it would be necessary to open the peritoneal cavity before it could be fixed in the loin. This distinction is confirmed by the four cases of dissection to which Mr. Morris refers. Comparing them with the present one, the range of movements to left of the umbilicus and into the right iliac fossa was so great in this case, that it would seem proper to call it a "floating kidney," yet, at the operation, no renal mesentery or mesonephron was found. The probable mode of its production would also militate against the existence of any mesonephron. The kidney was far away from its normal position, but when pushed back into its proper place no layer of the peritoneum could be found that by any possibility could be called a mesonephron, and the peritoneum was certainly not opened.

In spite of the fact that Paoli cut through the twelfth rib in order to obtain room, it would seem to be rarely necessary to do so When found and pressed back, the kidney should be fixed as nearly as possible in its normal position. Usually it will be impossible to replace it as high as it was at first, but lowering the site by two inches is not uncommon and seems to be of no importance.

The sutures that have been employed (either of silk or of catgut, disinfected, of course) may be passed (1) through the capsule of the kidney, or (2) through the parenchyma and capsule both, and may either be (3) left permanently or (4) removed. In this case I employed antiseptic silk, which I consider decidedly the best, and passed the stitches not only through the capsule, but through the parenchyma of the organ itself, three on the anterior surface and four on the posterior, stitching the kidney to the muscles, and what I consider more important, to the aponeurosis, which exists on each side of the incision. Finally, these stitches were not removed, but were left in situ. I believe with Svennson, that many failures have been due to employing absorbable catgut, to the avoidance of passing the stitches through the substance of the kidney, and to removal of the stitches, which in all cases I think should be left in, whatever the material employed. Svennson inserted as many as fourteen silk stitches, which were left in place and caused no trouble. The wound is best left to heal by granulation. I introduced a number of stitches to close the abdominal wall if necessary, but in twenty-four hours it was so filled up that it was evidently a needless precaution. The larger amount of cicatricial tissue that is produced by leaving the wound to heal by granulation probably fixes the kidney more firmly.

Another very important point is, that the patient should lie flat on the back for at least a month after the operation, in order that the cicatricial tissue binding it in place may become thoroughly developed and firmly established. Even then I would advise some support for the kidney in front by a pad or bandage, provided the patient bears it well. In this case I soon abandoned it, as it caused too much discomfort. It is to be noticed that though the stitches were passed through the kidney substance, the patient had no hematuria (this was carefully watched for) and that no inflammation or reaction seemed to follow. But seven weeks after the operation considerable pain developed in the region of the kidney together with some albuminuria. This disappeared, however, after the use of Basham's mixture. The pain seemed to be rheumatic, but was soon relieved by the administration of salol.

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Chlorate of Potash in Ozena.—Dr. J. A. Baetta Neves has recently reported a case in which he succeeded in curing ozena by means of chlorate of potash. The patient, a lad of strumous constitution and suspicious family history, had suffered for some months from chronic naso-pharyngeal catarrh. There was an abundant muco-purulent secretion, often streaked with blood, and very offensive; the nasal mucous membrane was ulcerated in some places and in others covered with dark green crusts. Various local astringents, including borax and alum separately and in combination, were tried without effect. The nasal passages were washed out with douches of a 1 in 100 solution of permanganate of potash in water, 100 grammes being used for each douche, and the application being made twice daily, always preceded by a douche of plain water. In three days the discharge had lost its offensive smell. A solution of chlorate of potash (1 in 30) was then substituted for the permanganate in the douches, and in two months the patient was completely and permanently cured.—*Brit. Med. Jour.*


# WEEKLY MEDICAL REVIEW,

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SATURDAY, APRIL 20, 1889.


## How to Preserve the Hands.

Surgeons, obstetricians, nurses and others who are compelled to use the various antiseptics, often experience considerable trouble from reddening, eczema and cracks of the skin of the hands, the result of repeated washings and scrubbings with antiseptic materials. Sometimes this condition becomes such as to demand entire abstinence from the use of them for a while.

Fluid antiseptics produce especially a roughening of the skin of the hands, which results in a cracking when the hands are subsequently exposed to the cold air and are not sufficiently dry. Several methods have been proposed to keep the skin of the hands soft and pliable. Of them the one most useful and the easiest to carry out is that recommended by Prof. Liebreich, and published in an article on the above subject by Dr. Geo. Meyers, of Berlin (*Med. and Surg. Reporter*). It has nothing to do with the disinfection of the hands, but merely serves to keep their skin in a normal condition. Moreover, it can be used with all disinfectants without having to fear any further effects on the hands since its use renders the skin smooth and soft. After thoroughly washing the hands with soap, they are well wiped and thoroughly dried; then the hands are rubbed with a little lanolin, and any excess removed with a handkerchief. A little extract of vanilla and oil of rose added to the lanolin makes it more pleasant to the sense of smell.

| | | |
|---|---|---|
| ℞ | Lanolin puriss. - - | 98 parts. |
| | Extract Vanilla - - | 2 " |
| | Olei Rosæ - - - | gtt. j. |

Another salve can also be made by substituting for 19 parts of lanolin an equal amount of paraffin.

The lanolin may be conveniently carried about in small metal collapsible tubes. It is to be reapplied after every washing.

In speaking of the favorable effect of lanolin he mentions its power of mixing with water, by virtue of which, after washing the hands, any water remaining on the skin from imperfect wiping is absorbed by the lanolin, and the hands prepared for the cold with the least possible grease. In practice he has used the method with good result for rubbing on the face, as in actresses whose skin had suffered from the use of paint.

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## The Indications for Thoracentsis.

In a recent number of the *Phil. Med. Times* is published a translation of a lecture upon this subject by Prof. Potain. The following is an abstract of it:

Aspiration of the thorax is indicated by but a few symptoms, the most important of which are, dyspnea, syncope, abundance of liquid and its nature, and the duration of the disease. It must not be supposed that dyspnea is proportional to the amount of fluid. A large effusion slowly developed will produce less effect than a smaller one which has rapidly collected. Furthermore, fever, moral, physical or mental excitement by increasing hematosis will produce or add to a dyspnea, and by demanding more work from an already over-taxed heart frequently become the cause of a sudden and fatal syncope.

Pain is also a frequent cause of dyspnea, but this may be relieved by counter-irritation and morphia injections.

The indications for tapping presented by bronchial and pulmonary complications are different according as they come from the side of the effusion or the other. If a pulmonary congestion or a bronchial inflammation presents itself upon the same side as the effusion, aspiration is almost certain to increase the congestion; but if it occurs on the other side the danger of rapid asphyxia presents itself and demands immediate extraction of the fluid.

The tendency to syncope is a serious complication, as it indicates cardiac failure which may be fatal at any moment; it calls for immediate action.

A large effusion is dangerous not only on account of the diminution of the lung space, but because of the pressure upon and displacement of the heart and other structures in the thorax. A right-sided effusion presses upon the right auricle, and a left-sided one causes a twisting of the inferior cava; under both circumstances a stasis of blood occurs, with a consequent tendeney to the formation of coagula, and danger of pulmonary or cerebral embolism. (Sudden death from pressure upon the left ventricle in cases of left-sided pleurisy is also a danger always to be kept in mind.)

Another point to be considered in dealing ing with large effusions is the effect of compression upon absorption; the likelihood of the fluid being absorbed is inversely proportional to the quantity present. Furthermore, in tapping large effusions it is not necessary to remove the whole or even a large portion of the whole; it has been observed by many that after taking away a certain proportion the rest is often rapidly absorbed.

The question of determining whether the amount of fluid present in a given case is large or not is a matter of judgment aided by chest instruments.The exact amount of the fluid is not the important point, but the relations between that amount and the capacity of the pleura.

With reference to the duration of the malady as an indication for tapping, Woillez says that between the eleventh and fifteenth day is the proper time, but it must be remembered that some pleurisies will cure themselves in that space. Wait, as a rule, until the liquid reaches the lower angle of the scapula. If the liquid, however small the amount, is not absorbed after the twenty-fifth day of the treatment it is best to introduce it and thus avoid the dangers arising from a permanently compressed lung. If there is a rapid increase of the fluid operate from the fifteenth to the twentieth day, and in most

cases where there is no improvement by the twentieth day thoracentesis is advisable, unless there is fever.

As to the quantity of liquid to be withdrawn it is the better plan always to take away a certain proportion of the total amount of liquid present, which is definitely indicated by a manometer attached to the introducing instrument. The pressure is at first positive but as the liquid is withdrawn, the pressure gradually descends to and below zero; finally it will make a sudden fall of several millimeters of mercury, at which point the operation must be instantly stopped. A purulent fluid is an indication for immediate interference.

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## Treatment of Fractures of the Patella.

In a letter from New York published in a recent number of the *Can. Lan.*, a detailed account is given of a simple and rational method of treating fracture of the patella which has been lately advanced by Prof. Stimson. Any method of treatment of these fractures, to be successful, must meet two requirements; close approximation of the fragments, and the avoidance of pressure upon the articular arteries sufficient to interfere with the nutrition of the patella. The older methods by which approximation is attempted by means of extra-cutaneous appliances meet the first desideratum only partially, and with some of them harmful pressure upon the neighboring blood-vessels can hardly be prevented; all of them at best effect a fibrous union and a tedious recovery.

The operation of wiring the fragments is a comparatively grave one, and in New York has produced poor results. In nearly every case it has resulted in a stiff knee-joint, and in some suppurative synovitis has followed; and many surgeons there have almost abandoned the operation and fallen back to the old method of splints, etc.

The new method of Stimson's gives almost as good approximation as the operation of wiring, and is a simple procedure. A description of it is given as follows:

"Suppose, for example, the patient has a transverse fracture of the right patella. The patient is etherized and the skin over the part thoroughly scrubbed with soap and water, then douched with 1-2000 bichloride, and finally washed with ether. With an ordinary scalpel, four incisions are made in the following manner; the skin and subcutaneous tissue only being divided, and, for the sake of description, we will suppose the patella to be possessed of four angles: The incisions are so placed, that each angle of the patella has an incision situated a little distance from it, thus, the first is situated a little below the inferior and internal angle, the second a little below the inferior and external angle, the third a little above the superior and internal angle, the fourth a little above the superior and external. Then a straight Hagedorn needle armed with a No. 14 heavily braided silk ligature, which has been previously rendered perfectly aseptic by being boiled (one of the essentials of success is that there shall be no suppuration), is introduced into the lower and internal incision and carried deeply through the ligamentum patellæ and brought out at the inferior and external incision, It is then re-introduced and carried deeply through the tendon of the rectus and crureus muscles and brought out of the superior and internal incision. It is again re-introduced and carried beneath the skin along the internal border of the patella,and brought out at the interior and internal incision. The leg is now elevated so as to relax the quadriceps extensor as much as possible. Strong traction is now made on the silk and two ends are firmly knotted deep in the subcutaneous tissue. During this part of the operation considerable force may be used so as to bring the fragments closely together. The cutaneous wounds are then irrigated and dressed with a simple antiseptic dressing, the leg elevated; and a straight posterior splint applied for about three days. At the end of this time the dressings are removed, and if proper antiseptic precautions have been taken, the incisions will be found completely healed. The knee is then encased in a plaster of paris

dressing for two weeks, when it is taken off and the patient allowed to hobble around the ward on crutches, and gradually use his leg. As to the length of time the plaster bandage should be worn in order to secure the best results, it may be stated that this point has not been determined, as the method has not yet had sufficient trial in order to decide this point. So far, however, the cases in which it was discarded after two weeks' use appear to have done the best, as the union seemed quite as firm as those cases in which it had been worn for four weeks, and there was less stiffness of the knee. In every case, so far, very satisfactory results have been obtained, and in one case which your correspondent had the opportunity to examine, after three weeks the separation was less than one-fourth of an inch. It is recommended that if the case comes under observation before inflammation and effusion into the joint have taken place, to at once perform the operation; but if inflammation and effusion have taken place, it is better to wait until they have subsided. Some may ask what eventually becomes of the silk. In the cases so far nothing has been seen of it, which is due to antiseptic precautions, and it remains under the skin, acting as a firm splint, holding the fragments together, and this explains why the plaster paris dressing can be discarded so early."

## Pepsin and its Incompatibles.

Complaint is often made of failure or disappointment in the action of pepsin, and for this reason some physicians have given up its use entirely. Dr. J. R. Winslow (*Med. Times*) has made certain investigations to ascertain, among other things, whether failure in its action can be in some measure attributed to the maladministration of it. The results of his experiments are here given:

"Test No. 1. This contains gr. j sodium carbonate. The pepsin gr. 1-10 was first treated with the soda, and both were then added to a standard preparation. As you may observe, the albumin is entirely undissolved. This shows that the activity of the pepsin has been permanently destroyed by the alkaline salt, and is not regenerated by the addition of acid.

"This fact is well known to many of you, but it is by no means universally borne in mind. I have recently seen large quantities of the alkaline salt ordered by prominent physicians in conjunction with pepsin, both in powder and as the glycerole.

"Test No. 2 contains tr. ferri chloride ♏v, which interferes decidedly with the process.

"Test No. 3 contains a 1-5000 solution of the bichloride of mercury. This, in common with all decided antiseptics, exerts an inhibitory action.

"It is a well known fact that large percentages of alcohol precipitate pepsin from solution and destroy its digestive power.

"On this account wines of pepsin are unscientific preparations.

"Wishing to ascertain the effect of small percentages of alcohol I have prepared:

"Tests No. 4 and 5. These contain respectively 1 and 5 per cent absolute alcohol, both of which exert a decidedly inhibitory action.

"Now, as these solutions contain in the one case 5 and in the other 25 minims of alcohol to the ounce, the practical conclusion is that alcohol cannot, in efficient doses, be safely prescribed with pepsin.

"Test No. 6 contains bismuth subnitrate gr. v., which exerts no deleterious action whatever, the deposit in the bottle consisting of the insoluble salt itself.

"Test No. 7 contains ammonio-citrate of bismuth, gr. v.

"In this the albumen is entirely dissolved, but the solution is milky from the precipitation of the oxychloride of bismuth by the action of HCl on the bismuth salt. In the presence of an alkali, however, the soluble bismuth salts form a colorless solution, and on account of this desideratum nearly all the elixirs of pepsin and bismuth are alkaline. This at once destroys the activity of the pepsin, as you may see in

"Test No. 8, which contains ℥j of an elixir of pepsin, bismuth and strychnine, has no digestive value whatever.

"Moreover, the reactions of pepsin with organic matters are not well understood, so that it is better to avoid such elixirs.

"Test No. 9 contains tannin gr. v. The tannin and pepsin were first brought into contact and then added to the standard solution.

"As you see, this has an injurious effect upon the pepsin.

"Test No. 10 contains quinia sulph. gr. iij, which exerts a slight inhibitory action.

"Test No. 11 contains saccharine gr. x. This decidedly interferes with the activity of the pepsin and should not be employed in connection with it.

"Test No. 12 contains pulv. (willow) charcoal, gr. x, which has no deleterious action upon digestion, the deposit in the bottle being the charcoal itself."

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## Electricity as a Therapeutic Agent.

The *Medical News* (March 30, 1889) contains a paper from Dr. M. Allen Starr on the above subject that more nearly than anything that we have read lately gives a fair exposition of the status of electro-therapeutics from a scientific standpoint. Having discussed the various forms in which electricity may be used and the effects obtained he concludes as follows:

"To sum up the facts here presented we may say that

"1. Static electricity offers nothing beyond an interrupted galvanic current, and fails to furnish those effects which are most desirable in the treatment of disease.

"2. A constant galvanic current can produce chemical changes which aid nutrition, or destroy tissue according to the strength employed.

"3. A constant galvanic current can transfer medicines into the body from without.

"4. An interrupted galvanic current, or a faradic current, can excite various organs to functional activity, thereby aiding their nutrition.

"5. It is questionable whether the pathological state causing organic diseases can be in any way influenced by electricity.

"6. If functional diseases are benefited, it is in an uncertain manner; it being undecided whether it is by influencing the molecular condition, the chemical changes, the circulation, or the electrical state of the organ affected—or by the state of mental expectation induced. The agent is, therefore, used empirically, and the physiological indications for it are as yet uncertain. As a therapeutic agent its use is very limited and carefully balanced scientific observations are still needed to establish its proper sphere.

"It has been the object of this paper rather to sum up certain facts as opposed to tentative theories than to state anything new. It is also the object to elicit expressions of opinion of the use of electricity in therapeutics—based upon the experience of those who have given it a careful trial. All reference to the use of electricity in diagnosis has been purposely omitted.

"I cannot, however, close without stating that after the constant use of electrical treatment for the past six years in dispensary and in private practice, I have been disappointed in the results obtained. And I cannot ascribe this lack of result to any defect in the applications, for they have been made with care, with the best of apparatus, and with exact galvano-metric measurements, according to the methods described by such authorities as Erb, De Watteville, Benedickt and Beard. My experience coincides with that of Gowers that the therapeutic effects of electrical applications have been much exaggerated and are really very limited and quite uncertain."

We have no fault to find with Dr. Starr's conclusions; on the contrary, we think them quite just and the necessary result of the kind of an investigation of the subject that he has made. But we confess some surprise to hear Dr. Starr say that he has "been disappointed in the results obtained." It is no unusual occurrence to hear persons with little knowledge of diseases of the nervous system and none, or next to none, of the therapeutic results of electricity, proclaiming not only their disappointment, but its uselessness as a therapeutic agent. The reason for this s that

they had expected too much of electricity; they were dissatisfied because they expected it to do impossible things. Because in several cases of old hemiplegia or in the paralysis of polio-myelitis they have seen no good effects after a few patient months of trial, they pronounce it a useless and delusive affair and never attempt to use it again. The therapeutic use of electricity is quite as empirical to-day as ever; but with all the recent talk of improved apparatus, measurement, etc., many members of the profession who have not had opportunity to study the best literature of the subject, are led to believe otherwise.

To one, however, with Dr. Starr's attainments and opportunities the true situation must soon become apparent; hence, we cannot believe that his disappointment was great or of long standing.

We find that in speaking of electricity it is hard to make ourselves understood. For this reason many hesitate to say what they think, lest they be understood as disparaging its use altogether.

## MEDICAL ITEMS.

Prof. Bollai advocates picrotoxin as the best antidote for morphine. The latter paralyzes the action of the respiratory center while small doses of picrotoxin increase it. In morphine poisoning diminution of blood pressure plays an important part, but picrotoxin enjoys the property of stimulating the vaso-constrictive centers of the medulla and thus counteracts the effect of the morphine. The action of these two substances in the cerebral hemispheres is also of an opposite character. Bollai also believes that picrotoxin will be found of value in preventing chloroform asphyxia.

Fromentine is the name of a new alimentary substance recently exhibited at the Academy of Medicine by Dujardin-Beaumetz, which consists of the embryo of the wheat separated from the rest of the grain by special mill-stones. It contains three times more nitrogenous substance than meat, and a strong proportion of sugar. It would, accordingly, appear that it might advantageously replace produced meat as a concentrated food.

The oil of turpentine would appear to be a remedy always to be tried in cases of membranous croup before resorting to intubation or tracheotomy. Loewentaner reports (*Med. News*) two cases of severe stenosis of larynx, in both of which the administration of a coffeespoonful of turpentine was almost immediately followed by expectoration of the membranes, and subsequent small doses internally or by inhalation led to complete recovery. Several coffeespoonsful of the oil may be administered during a night and da for several days if the membranes reform.

A case is recorded in an Italian medical journal of a woman, æt. 50, who had submitted to laparotomy upon six different occasions at the hands of Prof. Franzolini. The operations were performed between June, 1879, and April, 1887. The first was in consequence of fibrocystic disease of the uterus. A triumph of surgery such as this is, perhaps, without precedent, and the most satisfactory part of the case is that the patient has, since the last operation, enjoyed good health. So does she deserve her reward !—*Med. Press.*

Medical Journalism—a Protest.—The following communication, signed by several leading members of the profession, addressed to the Presidents of the Branches of the British Medical Association, has been drawn up with a view of eliciting an expression of opinion from the members of the Association:

"It is universally admitted that the *British Medical Journal* is at present ably edited, and that, while it is a great financial success, it is a repertorium of a vast amount of valuable scientific information.

"At the same time, it is believed by many members of the profession that the best interests and the honor of the Association would be greatly promoted by a change in the character of the *Journal.*

"An opinion has for several years been

wisely held that the lines on which the *Journal* is now conducted, which are similar to those of proprietary journals, with anonymous articles and reviews and multifarious advertisements, are not suitable for the organ of our Association, for the sayings and doings of which our members individually are responsible.

"It is felt that the *Journal* should be a faithful exponent of the proceedings of the Association in all its departments, while presenting a record of contemporary professional work elsewhere; but that anything beyond this, whether articles, reviews or annotations, should have the author's signatures appended, as indicating the actual authority of the communications. The character of the advertisements also should be more carefully controlled than at present, and especially all announcements of secret remedies should be excluded.

"It may be objected that such a change in the *Journal* would involve some pecuniary loss. But our members are now so numerous that the annual subscriptions, together with income from other sources, would cover all current expenses. And it may be remarked that our individual self-respect is a matter of higher moment than flourishing finances.—*Med. Press.*

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A correspondent of an English journal writes: "A patient of mine recently swallowed a plate (gold, with two teeth), and I immediately adopted a practice recommended to me some years ago by Sir James Paget in a similar case. I made him eat three good slices of bread and swallow four tablespoonfuls of flour and water made into a fairly thick mass. I then administered an emetic, and the teeth returned entangled in the tenacious vomit. I may add that something of this sort is habitually done at police stations, when prisoners arrested for passing false coins swallow them."

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The editor of the *British Medical Journal* is of the opinion that the tide of sympathy for the insane, that is so universally calling for a mitigation of the severe mechanical restraint that has heretofore been used in the treatment of these unfortunates, may result in more harm than good. It is probable that the abuses, that have been complained of, as occurring in asylums, have been the result of the extreme difficulty in selecting attendants who have sufficient judgment and self-control to make them equal to the responsibilities which they assume.

Superintendents of insane asylums should be well paid, as few persons in this world are placed under more trying circumstances than they.

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## SELECTIONS.

### THE CURE OF BACILLARY PHTHISIS.

The very latest in the treatment of pulmonary tuberculosis is the "hot air" method.

The readers of the REVIEW have, no doubt, heard something about it, and will be interested in the following statement from the pen of the originator of the method, Dr. Louis Weigert:

Two years ago I commenced a work concerning the therapy of diseases of bacterial origin. For reasons which I cannot now particularly enumerate I discontinued it in order that I might restrict my attention to a part of the work, viz., the treatment of tuberculosis. Theoretically, I make the following deductions:

All attempts hitherto made to destroy the tubercle-bacilli in a body infested by them failed for the reason that they possess a greater power of resistance against antiparasitic agencies than do the cells of the animal organism themselves.

Just as resistant as the tubercle-bacilli are against such remedies, just so susceptible are they to the influence of temperatures, be they either higher or lower than their optimum temperature.

All varieties of microbes, as proven by Pasteur by reducing the virulence of the bacillus of chicken-cholera, and as taught later by Toussaint and Pasteur by

their protective anthrax inoculation, are thu reduced by the action of increased temperatures.

The temperature limits within which the tubercle-bacilli can flourish are particularly narrow. (Their optimum is 37.5° C. at 38.50° C. their growth is only poorly; at 42° C. their development ceases entirely; if exposed to a temperature of 50° C., they die within one month, and one single "boiling up," *i. e.*, 100° C. destroys them completely).

Were it possible now, by means of a discontinuous sterilizing process, to hinder the tubercle-bacilli in their development and thus to diminish their virulence, and were it possible for the human organism to bear the inhalation of highly heated air without detriment, then we would have obtained a means in such inhalations of combating bacillary phthisis.

Thus reasoning, I instituted experiments in various directions, with the following results:

1. The currectness of the announcements made by other investigators concerning the temperature limits, and the effects of various degrees of temperature upon the tubercle-bacilli.

2. The possibility of lowering their developmental and procreating capacity by means of discontinuous sterilization.

3. That dry air heated to 150°–180° C.(302° 356° F.) may be inhaled by man without difficulty for several hours, and such inhalations produce a hurrying of the pulse only during the first few minutes; a diminution in the frequency of respiration, with at the same time a deepening of the inspirations; an elevation of the general temperature of the body by ½°–1° C.; the expired air shows a temperature of at least 45° C.; within an hour after completing an inhalation the temperature of the body returns to the normal, and the general well-being remains undisturbed.

My experiments thus far instituted for determining the temperature of the air contained in the alveoli, and that of their tissues during an inhalation, have thus far not maintained any positive result.

I commenced a series of experiments with the purpose of determining whether, and in which stage of the treatment, the virulence of the tubercle-bacilli contained in the sputa of consumptives, was, through such inhalations, diminished and thus removed simultaneously with the reception of a tuberculous patient for treatment by means of highly heated dry air.

I began treating the first patient June 7, 1888. Since then I have treated a very large number of consumptives after the same manner and, moreover, almost throughout with such favorable results, that, indeed, every doubt as to the correctness of my premises must be excluded. I intend shortly to have appear in print the clinical history of my first fifty cases, and thus place them at the disposal of my colleagues. Meanwhile I shall limit myself to a representation, seriatim, of the general results attained:

1. Removal of dyspnea.
2. Lessening of cough.
3. During the first few days, especially while inhaling, increased expectoration; later on considerable diminition, up to its complete disappearance.
4. Cessation of the fever.
5. Removal of night sweats.
6. Improvement of appetite.
7. Increase of strength.
8. In a short time, in most cases, a complete standstill of the acute process.
9. Less frequent occurence, and later on entire freedom from hemoptysis.
10. Removal of catarrhal phenomena.
11. Clearing up of previously infiltrated parts.
12. Disappearance of bronchiectases.
13. Cicatrization of cavities.
14. An increase in weight takes place, particularly in such cases as previously had been much emaciated, and also in such in whom has occurred not only a standstill of the acute process, but already a beginning of the healing process. The absence of increase in weight at first is, however, easily explainable when it is considered that patients treated according to my method are not subjected to

any extra diet whatever, and that the inhalations require more or less bodily exertion.

15. Microscopic examinations show a gradual decrease of the elastic fibers in the sputa up to a total disappearance of the same as also a rapid diminution of the pus corpuscles. During the early period of the inhalations it seems to me that there occurs an increase of the bacilli in the expectoration; but later on there is shown a considerable diminution of the same.

That a cure can only be a gradual process can easily be understood from all that has now been said. An immediate killing of the bacilli, by means of hot air inhalations only from time to time, cannot be made possible, but simply their discontinuous sterilization. The inhalations continue but for a few hours daily; only during this time are the bacilli exposed to weakening temperature, and after all this is not as high as would appear. For though the inhaled air at the mouth is at a temperature of 160° C. (320° F.), it cools considerbly on its way to the lungs by being in contact with tissues and the blood circulating therein, of a temperature of only 37.5° C., as may be inferred from the fact that the exhaled air is warmed to 45° C. (112° F.). Now, inasmuch as this again must have become still further cooled down on its return passage from the lungs, we may infer that the air contained in the pulmonary passages during an inhalation must be at a temperature many degrees higher than 45° C.

The experience thus far gained enables me to give the following definite directions:

1. The effort must be made to increase the duration of the inhalations as rapidly as possible, beginning with half an hour twice daily up to two hours or more twice a day. The more or less rapid lengthening of the sittings, as also the eventual shortening of the same, must be adapted by the observant physician to the individual condition of the patient. Never must the inhalations last longer than is comfortable and agreeable to the patient.

2. The patient must be encouraged to make the deepest possible, and later on, forced inspirations.

3. The temperature of the air during these inhalations, as indicated, of course, by the thermometer in the breathing tube, beginning with 100°, must as rapidly as possibly be raised to about 250° C., which can be accomplished within two or three days without complaint on the part of the patient. The air on its way from the thermometer to the mouth is considerably cooled, and as the valves do not shut perfectly, outer air is also admitted—so that the inhaled air at 250° (thermometer) amounts in reality to only about 150°.

4. Should pulmonary hemorrhage occur, the inhalations must be suspended.

5. With hemoptosis the inhalations are to to be continued, with the direction, however, that the inspirations must be as shallow as possible.

6. With acute pleuritic inflammation, rule 5 is to be observed, excepting when very severe, then rule 4.

After having finished a sitting, the patient must keep the room for at least half an hour; then only may he be allowed, and even encouraged—only however in favorable weather —to exercise in the open air.

As a matter, of course, treatment by means of hot air inhalations permits the fulfilling of any other therapeutical indication that may appear necessary, more especially the administration of antipyretics, etc.; contra-indications, I know of none."—*Med. Times.*

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## RECENT ADVANCES IN THE DIAGNOSIS AND TREATMENT OF THE STOMACH.

The process of taking stock, of finding out the exact amount and nature of our possessions, is at least as valuable in the mental as in the physical world. In a paper read before the Medical Society of Munich, on December 4, 1888, Stintzing has done this important work for the department of diseases of the stomach. After a critical examination of the various methods of testing the functional capacities of the viscus, he propounds

the only question of interest to practical physicians: What have they taught us? In the first place, as he tells us, we have learned the paramount importance of hydrochloric acid in the act of digestion. It is not so long since pepsin was regarded as the panacea of every gastric trouble, whereas we are now well aware that in the gradual disappearance of the digestive agents pepsin never takes precedence of hydrochloric acid. We have learned to recognize the two extremes of anacidity and hyperacidity, and for a time were inclined, in accordance with the researches of von den Velden and Riegel, to regard the former as pathognomonic of carcinoma. Although we are now aware that hydrochloric acid may be absent in other morbid conditions, such as dilatation without carcinoma, motor insufficiency, chronic catarrh, and atrophy of the mucous membrane, yet its absence in carcinoma is a diagnostic point of the greatest importance. For example, the differential diagnosis between simple ulcer and carcinoma is now rendered a comparatively easy matter, since hydrochloric acid is never absent in the former disease. On the other hand, Stintzing declares that he has never found it in carcinoma, but does not state in how many cases of the disease he has tested the gastric secretions.

The symptom called pyrosis has long been recognized as due to hyperacidity, although the nature of the acid or acids causing it was, until recently, unknown. It is now established that there are two varieties of pyrosis, one depending upon an excessive secretion of hydrochloric acid, the other upon organic acids caused by abnormal fermentations. For the former, Sticker has proposed the term pyrosis hydrochlorica. Hyperacidity is a frequent though not an invariable accompaniment of gastric ulcer.

The new methods of research have enabled us to distinguish from hyperacidity a condition of hypersecretion, by which is meant the secretion of gastric juice by a fasting stomach. This condition is by no means fanciful, but is a well-recognized and serious pathological aberration. According to Riegel, there may be withdrawn from a hypersecreting stomach during a fasting interval as much as a pint of acid fluid capable of digesting albumen. The causes of this condition, which was discussed in the *Med. News*, October 1, 1887, are not fully known, although it is probable that they often have their origin in the nervous system. In support of this view, it may be mentioned that Sahli has observed a hypersecretion of gastric juice during the gastric crises of a tabetic patient. The condition of hypersecretion may, therefore, be either transient or permanent, and in the latter event is generally associated with dilatation. In the first thirty or forty-five minutes of digestion the acidity of the gastric juice is caused by lactic acid. If this acid appears in later stages of the process, its presence is caused by undue detention of food or by deficency of hydrochloric acid. The tests for lactic acid are, therefore, of importance in the diagnosis of diseases of the stomach.

Studies of the milk-curdling ferment, the labferment of the Germans, have lately been instituted by Johnson, Klemperer and Boas, and the latter has shown that as pepsin is preceded by propepsin, so is the labferment by labzymogen. The latter is developed into the former, and acquires its milk-curdling property by the action of hydrochloric acid. Labferment is always present in the stomach, except in high degrees of atrophy, and even in these its forerunner, labzymogen, may be found. The diagnostic value of the absence of this ferment is no greater than that of hydrochloric acid, on the action of which, as already stated, it depends for its existence.

The absorbent power of the stomach may be tested with iodide of potassium, which was first employed for this diagnostic purpose by Penzoldt and Faber in 1882. Three grains of iodide of potassium are given in a gelatine capsule, and the saliva which has been previously shown to be free from iodine is tested for this substance. If the stomach is healthy and empty, the first iodine reaction appears from six and one-half minutes to eleven minutes. If the capsule be swallowed immediately after a meal, the reaction does

not appear until from twenty to thirty-seven minutes have elapsed. According to Stintzing, it may not appear, under these circumstances, until forty-five minutes after the capsule has been swallowed. In dilatation of the stomach, in cancer, ulcer, and chronic catarrh the absorbent power of the stomach has been shown by this test to be diminished.

The digestive and absorbent powers of the stomach having been tested, the examination is completed by ascertaining its motor ability. Until quite lately, the only means of determining this point was based upon the fact that a healthy stomach has discharged its contents into the intestine seven hours after a meal. If the stomach was proved to have emptied itself in that time, its motor function was assumed to be normal. Such a method, however, gave no reply to the question whether the gastric peristalsis had begun at the proper time. Quite recently a drug was discovered, or, rather, invented, the chemical properties of which rendered it singularly valuable as a test of the motor function of the stomach. This drug, which is salol, is insoluble in the acid secretions of the stomach, but dissolves in the alkaline fluids of the small intestine, in which it breaks up into its component parts, phenol and salicylic acid. The latter is excreted with the urine, in which it may be recognized by testing with chloride of iron. In health, according to Ewald, this reaction may be obtained in from thirty minutes to one hour after the ingestion of fifteen grains of salol; whereas, in cases of gastric dilatation the reaction, as a rule, does not appear until from ninety minutes to three hours after the same dose. These figures, of course, include the time occupied by the stomach in propelling the salol into the duodenum plus that necessary for the salol to be decomposed, absorbed by the portal vessels,pass the barrier of the liver, enter the general circulation and be excreted by the kidneys.Ewald and Sievers, by experimenting in a case in which colotomy had been performed, determined this latter period to be between twenty and thirty minutes. By subtracting these sums from the average time in which the urine reaction is obtained, viz., forty-five minutes, it would appear that the time necessary for the healthy stomach to expel a dose of salol into the intestine is from fifteen to twenty-five minutes. This salol test can scarcely be called clinical, for, apart from the delicate nature of the urine test, which is a part of it, it is impossible for most individuals to pass their urine at intervals sufficiently short for the object in view. On these accounts Stintzing has attempted to apply the test for iodine in the saliva to the determination of the motor function of the stomach. He administered iodide of potassium in keratin pills—which are, theoretically, insoluble in the stomach—and tested the saliva, at intervals, for iodine, just as is done in testing the absorbent function. At the first experiment, the iodine reaction appeared in exactly the same time as the salicylic acid reaction in the urine after the ingestion of salol. Stintzing, however, conceived the happy idea of examining the stomach contents for iodine, and found it present. It might have been swallowed, and, therefore, in a second experiment, as soon as the first traces of iodine appeared in the saliva he withdrew the stomach contents and found the iodine reaction to be much stronger in them than in the saliva. The method is, therefore, inapplicable to the object in view, and the experiment demonstrates that, as already suspected, keratin pills are not insoluble in the stomach.

The lastest test of the motor power of the stomach is that just presented by Klemperer. This experimenter introduces into the empty stomach 26 drachms of olive oil, and after a certain time washes out what is left in the viscus. The deficit determines the motor capacity. Under normal circumstances, the stomach discharges from 18 to 21 drachms of the ingested oil into the duodenum in two hours. In cases of chronic catarrh only from 6 to 11 drachms out of the 26 were emptied in the same time, and in a case of atrophy only 6½ drachms. Supposing it possible to wash out all the ingested oil, Klemperer's test is the most accurate yet employed, but the question arises whether the behavior of the

stomach toward a quantity of oil so great as virtually to constitute a foreign body, is the same as toward the ordinary nutritious substances. The difficulties in the way of the general clinical use of this test are also, it is needless to say, insuperable.

The most important results of modern gastrological research have now been enumerated, and it must be admitted that the array of precise therapeutic indications which they furnish is unequalled in any other department of medicine. Nearly forty years ago one of the greatest clinicians of Germany gave utterance to almost hopeless views concerning future progress in the knowledge of diseases of digestion. Through the methods above outlined, and especially through the use of the sound, this pessimism of Frerichs has been shown to be without real foundation.—Ed. *Med. News.*

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## COMMON MEMBRANOUS SORE THROAT.

BY J. SOLIS COHEN, M. D., PHILADELPHIA.

Described by authors under the following heads: Non-malignant sore throat, diphtheritic sore throat, herpetic sore throat, aphthous sore throat, croupous angina, common membranous angina, herpes pharyngis, herpes gutteralis, angina membranacea, *seu* herpetiformis, *seu* aphthosa. A rather frequent form of sore throat, often confounded with diphtheria, occurring at all seasons, characterized by the exudation of products eventually fibrinous which coagulate upon the surface of the mucous membrane into a pellicle or pseudomembrane.

The characteristic features are preceded for two or three days by those of ordinary sore throat. In most instances these symptoms supervene upon chill, with febrile reaction and subsequent manifestations of general systemic disturbance, such as headache, nausea and intense fever, the temperature rising to 103° to 105°. Then the pain increases, glutition becomes painful for a few days, and the conditions to be described presently are observed. Recovery is usually spontaneous within ten days or less. In some subjects recurrences take place at short intervals for weeks or months, or even years.

The disease is usually unilateral, and the corresponding submaxillary and cervical lymphatic glands sometimes become moderately swollen. It is maintained by some observers of unquestionable authority that within a few hours of invasion the initial feature of the local expression of this disease may always be detected on the palate and uvula, sometimes on the tonsils, less frequently on the pharynx, and occasionally on the hard palate. Small vesicles of the size of a millet-seed or somewhat larger are seen either isolated or in groups, with contents more or less turbid and surrounded by more or less vivid zones of inflammation. Actual tumefaction has been described (Potain, *Gaz. des hop.*, 1879, No. 11). Occasionally the vesicles disappear without traces after a day or two, and then there will be no membranous exudation. Some authors (Bosworth and others) restrict the term herpetic sore throat to these rare instances. So rarely is a case seen sufficiently early to detect the vesicular stage that this initial feature has been denied (Vogel). I have seen it in a very few instances. Most frequently the vesicles undergo rupture in from twenty-four to thirty-six hours, and the ruptured tissues present as small irregular excoriations which become covered almost immediately with a grayish-white plastic exudation. This exudation extends and becomes coalesced into contiguous patches which have commenced in the same manner. Ulcerated mucous surfaces in other parts of the body often become covered with the same sort of deposit during the attack, and even cutaneous surfaces likewise, but to a less extent. In some instances the vesiculation is limited to the uvula, sometimes to its posterior and inferior surfaces; and then sometimes the false membrane does not form upon the surface of the excoriations, but the mucous membrane becomes simply swollen and pasty looking. In some instances, and chiefly in children, the false membrane extends into the larynx. In some cases there is also herpes at the corner

of the mouth, or on the inner surface of the lips or cheek, or on the tongue. In most instances the tonsils become slightly swollen, and then covered with a whitish or yellowish-white exudation, but slightly adherent. Sometimes there are accumulations of viscid, ropy and turbid mucus. The soft palate and often its anterior fold, especially that portion in front of the swollen tonsil, acquires a fissured or corrugated aspect in many instances, and the membranous coating is distributed upon it more or less irregularly. If this be removed comparatively early, the surface is often found eroded and sometimes slightly hemorrhagic. When removed at a later date, the mucous membrane appears normal, the erosions having healed up meanwhile.

The affection has been regarded as a herpes zoster of the trifacial nerve, the result of irritation of the spheno-palatine ganglion (Herzog, "Pester. med.-chir. Presse," 1880, No. 19; "Jahrb. f. Kind.," 1880, December 23).

A membranous sore throat precedes some cases of enteric fever, and attends the advanced stages of some cases of phthisis and syphilis, due to the lowered vitality which prevents reproduction of healthy epithelium. That form of sore throat is not the variety under discussion.

Exposure to emanations from the products of inefficient house drainage, ill-ventilated water-closets, or other fetid accummulations, is often the apparent predisposing cause. The most frequent immediate cause of the attack is exposure to cold while the body is overheated or its cutaneous surface is in a state of active perspiration. Some patients are attacked almost annually, some oftener than once in a season. The disease is often contracted by susceptible subjects during the prevalence of diphtheria, and then it may become a starting-point for that disease. Under similar conditions it is sometimes endemic. Females are attacked more frequently than males, and young males more frequently than mature males. In some instances several females in a family or in a household will be attacked, while all the males escape, probably because their vocations take them away from the continuous influence of the contagium indoors.

The general subjective symptoms are those of acute sore throat, with marked febrile disturbances usually sthenic in type. The parts affected feel dry and hot, these sensations in many instances extending toward the ear, in some into the posterior nasal passages, in a few into the larynx. Glutition is often both difficult and painful. When the larynx is involved there will be superadded hoarseness, dyspnea and cough.

Great difficulty is often experienced in diagnosis, especially because the disease is rarely caught sight of during the vesicular stage. Sometimes one or more of the excoriations left by the rupture of the vesicles can be detected. Sometimes small isolated islets of pseudo membrane indicate recent formation by their transparency and their origin from a vesicle by their shape (Peter). The co existence of cutaneous herpes is a corroborative indication, but is by no means an infallible guide. In many instances differentiation from diphtheria is impossible, the more so that diphtheria is sometimes precipitated by a membranous sore throat. On the whole, the elevated temperature—103°-105° F.—so out of proportion to the mildness of the symptoms, and the absence of any history of possible exposure to infection from diphtheria, especially when the patient is a female, may be regarded as important factors of diagnosis in doubtful cases. The distinction from mycotic sore throat is easy, because the latter is apyretic and intermittingly continuous, and presents evidence of the Leptothrix buccalis under microscopic inspection of the pseudo-membranous product.

The tendency of the disease is to recovery, except in some rare instances in which the larynx becomes involved and life gets into jeopardy from mechanical obstruction to respiration. In the majority of instances recovery is spontaneous in from seven to ten days. Occasionally, and especially in children, death ensues by apnea from the results of extension of false membrane into the larynx. Recurrences are not infrequent. In some individ-

uals they are so frequent as to constitute a chronic membranous sore throat. One of my patients had recurrences during a period of fifteen years. In these instances there is usually some local cause for recurrences at work in the patient's dwelling. In my own practice several patients, whose attacks were at least annual, and some of which were still more frequent during a series of years, acquired thorough immunity from recurrence after yielding to my urgent advice to move into more salubrious quarters.

Under debilitated conditions of system, common membranous sore throat will not be unlikely to merge into phagedenic ulcerous sore throat.

Paralysis of the palate sometimes follows recovery from common membranous sore throat.

When the diagnosis of common membranous sore throat can be made out with certainty, there is nothing calling for special treatment; but the treatment pursued in ordinary sore throat may be generally followed with advantage. It is practically a self-limited disease with a tendency to recovery. When fetor exists, as during the detachment of patches of exudation, antiseptic and detergent sprays may be employed. Solutions of borax, boric acid, carbolic acid, potassium permanganate, hydrogen peroxide, etc., are appropriate. Lemon juice is often an agreeable and an efficient application. In those individuals, especially strumous and tuberculous subjects, in whom there is a constitutional proclivity to chronicity, or to the recurrence of the peculiar manifestations, more active measures will be required. Locally, frequent application of the dilute acids—say, every day or two—affords the most satisfactory results. Internally, iron and cinchona preparations should be administered. Opium in small doses is of special efficacy, not as a narcotic, but as a gentle stimulant or nervous tonic. Nux vomica and arsenic may be employed for similar purposes. The diet should be highly nutritious and easily assimilable. Unnecessary exposure should be avoided. Supporting measures generally, hygienic as well as medicinal, should be persisted in. When membranous sore throat exhibits a tendency to phagedena, the treatment for gangrenous sore throat becomes indicated. Common membranous sore throat may invite an attack of diphtheria, or the diagnosis may be in doubt. In that case the prudent course is to treat the affection as diphtheria, but to avoid the recommendation for diphtheria of some indifferent remedy during the exhibition of which a case of membranous sore throat has ended in recovery. When extension to the larynx occurs and threatens suffocation, tracheotomy or intubation to avert death should be practiced, as in croup or diphtheria.

In cases of recurrent or chronic membranous sore throat the cause should be searched for in the dwelling of the patient or in his place of vocation. Should either of these be found unhealthy, nothing short of change to healthier surroundings will be likely to be of permanent service.—*N. Y. Med. Jour.*

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## ERYSIPELAS AND PUERPERAL FEVER.

BY ROBERT T. WILSON, M.D., OF BALTIMORE.
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The more the study of infectious diseases rules the medicine of the present time, the more our interest is directed toward the relation which the individual disease bear to each other. Among the infectious diseases which, according to the old ideas, are said to stand in a changeable relation to each other, are, erysipelas and puerperal fever. The endeavor has been made to prove clinically the identity of both diseases by pointing to the fact that they appear simultaneously, and still further by showing that puerperal fever is said to be engendered from erysipelas, and vice versa in the case of lying-in women. The views of the identity of both forms of diseases are especially furthered by the opinions of Virchow, that, anatomically considered, the course of certain forms of puerperal infectious diseases, especially in the cellular tissue of the pelvis, resembled, or indeed s

the same, as in erysipelas. There are statements enough in existence which must make us cautious in our practice, but which are al ways being opposed by a number of observers, and these, though widely differing, assist in proving that there is a connection between erysipelas and septic infection. This subject, which has been treated in a variety of ways, has made great progress in recent years through the fact that Volkmann (Pitha —Billroth's Chirurgie, Erysipelas) lays stress upon the point that erysipelas as a disease, *sui generis*, must be separated just here in the puerperium from the phlegmonous conditions, —a view which has already been expressed by others (Hirsch). Hugenberger, from his experience, has endeavered to show, that erysipelas in the puerperium only appeared as a dangerous complication and had nothing to do with puerperal fever. We find cases on record in which erysipelas appeared to an alarming extent in cases of lying-in women as well as in other patients—so-called *nosocomial* erysipelas; and furthur, that septicemic conditions and pyemia have been engendered from lying-in women with erysipelas, and *vice versa*, from such lying-in women erysipelas has occurred with other sick persons or with well persons—physicians, nurses, etc.

After the appearance of Hugenberger's communications, A. Gusserow, in the Spring of 1879, had under his care a large number of erysipelas cases with lying-in women, while at the same time many cases of puerperal fever appeared in the obstetrical ward of the Charity Hospital. From the course of the cases of noso-comial erysipelas (says Gusserow), if we are willing thus to designate the coincidence of nine cases of genuine erysipelas, he (Gusserow) was thoroughly convinced that there existed no connection between puerperal sepsis and erysipelas. The discovery of Fehleisen has made an epoch in the study of erysipelas and it involuntarily recalls to our recollection (says Gusserow) the question how far erysipelas stands in connection with septic infection in the puerperium. Since through the erysipelas coccus (says Gusserow), the specific principle of erysipelas, the peculiarity of the disease has been so beautifully proven, it seems to me(says Gusserow) that now is the time to emphasize again from a clinical standpoint the individality of erysipelas in the puerperium, and to endeavor to prove that this disease has nothing in common with puerperal sepsis (*Archiv. f. Gynak*, vol. 24, part 2). Medical literature contains a sufficient number of cases with observations on the course of erysipelas in pregnant women to substantiate this view.

If erysipelas could be easily produced from a lying-in woman who has puerperal fever, the number of observations ought to be very large. But in the literature of this subject the cases on record are by no means large, and those which do exist admit of the supposition that they are not genuine erysipelas but phlegmonous inflammation whose connection with sepsis is known in those cases (says Gusserow). Puerperal fever, puerperal septicema, may be endemic or epidemic. As the symptoms of the affection vary infinitely, so may the epidemics in their severity. Since the first epidemic at the Hotel-Dieu, recorded by Mauriceau and Lamotte, 1664, hardly a year has passed without our being able to refer to an epidemic at one or another place in the different parts of the world. While all authorities agree in regard to the application of the term puerperal fever, the theories of its origin have been innumerable, and to-day there are questions concerning it which it remains for the future to decide. The earliest theory was based on the idea of retention of the lochia, with decomposition of remnants of placenta. This theory started with Hippocrates, and was defended by Galen, Avicenne (1000), Rhodion (1532), Mercatus (1570), Michaelis (1615), Sennert (1631), Sydenham (1682), Huter (1711), Mauriceau (1712), Burton (1751), Smellie (1752), Tissot (1795), and many others. To this theory succeeded that of the metastasis of the milk, which was first promulgated by Mercurialis and Willis, in 1662, and was advocated, in particular, by Puzos (1743), Lieutland (1750), Levret (1766), Van Swieten, Deleurye (1777), and others.

Autenreith formulated his theory in the beginning of this century, which is only a combination of the preceding. His theory was accepted by Schmidtmuller, Carus, Joerg, etc. Then arose the gastro-bilious theory of Trincavellus, which was advocated by Manning, Cooper, Denman, and others.

The fifth theory is the phlogistic; according to which inflammation is the cause of puerperal fever. According to the site of the inflammatory process, we may have three varieties: 1. A metritis, which may be associated with a phlebitis or a lymphangitis (Plater, 1602, Denman, Tissot, Naegele, and others). 2. An enteritis and a peritonitis. 4. Peritonitis, pure, the view of Johnston, Hunter, Siebold, Capuron, Baudelocque, and others. Then followed the erysipelatous theory, advocated in particular by Eisenmann, and accepted by Delaroche, Bayrhoffer, Gordon, Ingleby, Lee, and numerous English and American authorities; this theory considers puerperal fever as an internal erysipelas.

Semmelweiss, in 1847 to 1861, promulgated the following theory: Puerperal fever must always be considered as a fever due to the absorption of a decomposed animal organic matter, and this absorption may result from auto-infection (the product of decomposition coming from the individual itself), or from hetero-infection (the product of decomposition coming from without). Puerperal fever is not, therefore, a peculiar and exclusive disease of the puerpera. An identical affection, even as has been proved by Trousseau, Schee, Helm, Buhl, Simpson, Tarnier, may be met with in virgins,in the new born,in the wounded of either sex. The point of origin of the disease is found as well in the uterine wound, and in slight superficial wounds of the genital organs, as in lesions of the peri-uterine cellular tissue, or in the vagina. The primitive local disease becomes general through the carrying of the morbid process to the cellular tissue, thus gaining in extent, or else it is transported by the lymph of the blood to all the other organs; or else foreign bodies are carried by the circulation, deposited in different organs, and there become the source of the disease.

The causes of isolated cases, that isto say, of those developing aside from all epidemic influences are:

1. Lesions and wounds of the genital organs.

2. Retention followed by alteration of portions of the placenta or of the membranes.

3. Primitive inflammations of the vagina and of the uterus, such as those caused by gonorrhea.

4. Finally, infection of wounds of the genitals organs by cadaveric emanations, purulent or gangrenous secretions, etc.

Schroeder is a resolute advocate of the theory of Semmelweiss. Doleris says: To-day all authorities are in accord in considering puerperal fever as a species of poisoning. The most resolute localists have renounced the view that the diseases resides in the lesion itself. The recent investigations of Championiere, Siredey, Quinquaud, Fiouppe, Despine, Bode, plead in favor of the absolute similaritp of puerperal and of surgical infection. This is the doctrine held in France, and the one stated by Winckel (1878). It is the doctrine admitted almost uniformly throughout the world. In the United States, the belief of almost all accoucheurs is certainly in accord with the statements of Charpentier—puerperal fever is septicemia, differing only from surgical septicemia in that, superadded to infection, is the puerperal state. The most distinguished exception to this is Prof. Fordyce Barker; he still adheres to the views promulgated by him years ago, and it certainly tends to make every thoughtful man hesitate a trifle in propounding the absolute statement that puerperal fever is always simple puerperal septicemia. In the memorable discussion before the New York Academy of Medicine, in 1884, when Thomas, with all his eloquence, plead for the entire identity of this fever with septicemia, Barker protested (alone) against such a broard view, and stated that "his creed to-day is fully avowed in his book on the Puerperal Diseases, and unless in the future he learned new facts and new arguments to change his faith, he should die impenitent." In reference to Thomas'

argument, he states that its pathological doctrines were misleading and dangerous, because they were "supersaturated with septic infection." He (Barker) says that there does exist an epidemic disease differing in all characteristics points from what is known as septicemia; differing in its origin, its modes of attack, its symptoms, its anatomical lesions. His conviction, therefore, is still that there is such a disease as puerperal fever *sui generis*. Lusk says, surgical fever and puerperal fever are not only analagous, but are essentially one and the same process. Of all who discussed Thomas' paper, only Munde was inclined to agree in a measure with Barker. Munde's views are best expressed in his recently published appendix to Cazeaux and Tarnier's Treatise on Obstetrics.

Gallabin holds that a puerperal fever, *sui generis*, may exist. According to Playfair there exists identity between puerperal septicemia and surgical septicemia, and they may be either *auto-infection* or *hetero-infection*.

Robert Barnes says that "there are many points of analogy is undoubted; but there are also points of difference which forbid us to accept the doctrine of identity."

Atthill, Priestley, MacClintock, Macan, Johnson, admit that puerperal fever is only septicemia, the results of ichoremia.

Parvin, in his recent work on obstetrics says: "From what is known of so-called puerperal fever, it should not be regarded as a specific disease, and strictly speaking, there is no puerperal fever, that which is so demoninated being a febrile affection caused by the entrance into the system of a poison from without, the nature of which we do not know, the entrance taking placing through a wound of the uterus or of some part of the vulvo-vaginal canal."

Fortunately for the woman, our treatment of the disease is to-day more certain than our theory as to its origin, and if in the future a better explanation of the cause is offered than at present acceptable to the majority of accoucheurs, we do not hope for much change in the generally accepted treatment.—*Md. Med. Jour.*

## PHYSICIANS AS EXPERTS AND COUNSEL.

Judge Willard Bartlett, of the New York Supreme Court, recently read a very interesting paper on "Some Relations of Scientific Experts to the Administration of the Law," before the Medico-Legal Society of New York. One thing that Judge Bartlett especially emphasized was that physicians should not act as experts and counsel at the same time. 'The wise doctor as it seems to me, will take care not to act in both capacities. If he is to testify in the case he will not act as assistant counsel; if he acts as assistant counsel he will keep off the witness stand. There is no good reason why the most distinguished physician should not place his professional knowledge at the service of one of the parties to a litigation which involves questions of medical science. To do so cannot subject him to reproach, but it does lessen his fitness and his usefulness as a witness in that litigation. In assisting counsel he will inevitably come to share the sentiments of counsel as to the result. Just as counsel will seek 'to bring out every fact that may prove beneficial to the cause of his client, and will endeavor to destroy, as far as may be, the effect of any proof which is injurious to him, so the medical man thus employed will suggest questions for the examination of witnesses on his own side, and for the cross-examination of witnesses on the other side, which will call out answers favorable to the party at whose instance he has been brought into the case.

All this goes on before the jury, who fully comprehend where the medical questions really come from. If afterward they see the doctor take the witness stand it is impossible that they should regard him otherwise than prejudiced. However truthful his testimony may be, and however correct his opinions, his avidence is the evidence of a partisan, and this fact invariably detracts from its force and effect. When, therefore, a litigant or his lawyer applies to a physician or surgeon for assistance as an expert, the medical

man should first ascertain whether it is desired that he shall be a witness in the case or shall act as adviser to counsel. If he be asked to appear as a witness he should carefully abstain from seeing the injured person or examining into the circumstances upon any agreement or understanding that his right to compensation for so doing is to depend upon the conclusion he reaches. I have reason to believe that cases are not unknown in which the counsel for the plaintiff has said to the physician: "I think my client's injuries are serious, and that he will never be a well man again. Go and see him for me. If you find he is not permanently hurt I shall not expect you to charge me anything for making the examination; but if you conclude that his injuries are incurable I will call you as a witness on the trial and pay you handsomely."

Of course, no honorable physician will accept such a proposition as this; he will insist that his compensation shall not be dependent upon the opinion he may form. His sevices are worth just so much, whatever his opinion may be. The physician that conforms to this honorable course is always prepared for the most severe cross-examination; and if in the cross-examination the fact is brought out that the party by whom he was called agreed to pay him for examining the injured person, whatever might be the opinion formed by the examination, this evidence will be of great weight with the jury. The attitude of the medical man called as an expert should be as nearly impartial as possible. His sole desire should be to be true in his statements of facts, and sound in his expressions of opinion.

"It is well known that many railroad com. panies," says Judge Bartlett, "employ medical men continuously under salary to investigate all cases of personal injury which occur upon their lines, and to assist in the trial of the lawsuits to which such casualties give rise. The testimony of these witnesses is much less weighty and effective with a jury than the evidence of physicians called in for that particular case only, and I have more than once heard the counsel ask: 'How long would the doctor continue to be employed by the railroad company unless he always testified in its favor? Physicians thus permanently employed to treat accident cases are also peculiarly exposed to damaging cross-examination. I have no disposition to criticize railroad companies or other corportions upon whose property accidents are liable to occur for employing physicians to protect them against false or exaggerated claims on account of personal injuries. Indeed, they are also instrumental in procuring the adjustment of well-founded claims, and no doubt hundreds of suits are settled every year upon the recommendation of the medical advisers of railway corporations. Instances sometimes occur, however, of gross invasions of private right by physicians so employed, who have been known to force their way into the houses and to the very bedsides of injured persons, without regard to the protests of their families, in order to ascertain the extent of the injuries immediately after they were inflicted and to prepare themselves to testify on the subject if a suit should subsequently be brought. These trespasses are only committed against people in the humbler walks of life, who hardly know that they can rightfully expel the intruder under such circumstances. They are wholly without justification or excuse, and it is satisfactory to find that juries pay but little attention to medical testimony founded upon these unwelcome visits.

In his well-known Histories of the Criminal Law of England, Sir James Fitz-James Stephen, one of the most distinguished judges of the High Court of Justice of the present time, suggests a course of conduct on the part of the medical witnesses in accident cases which he thinks would do away with the reproach which attaches to expert testimony because the witnesses are so often merely counsel in disguise. 'If medical men he says, laid down for themselves a positive rule that they would not give evidence unless before doing so they met in counsultation the medical men to be called on the other side, and exchanged their views fully, so that the medical witnesses on the one side might know

what was said by the medical witnesses on the other, they would be able to give a full and impartial account of the case which would not provoke cross-examination.'

He truly observes that such a practice implies a high standard of honor and professional knowledge on the part of the witnesses called to give evidence, and the suggestion would seem almost Utopian, were it not that he adds: "For many years this course has been invariably pursued by all the most eminent physicians and surgeons in Leeds, and the result is that in trials at Leeds (where actions for injuries in railway accidents and the likeare very common)themedical witnesses are hardly ever cross-examined at all. and it is by no means uncommon for them to be called on one side only.' This is the best possible answer to the objection that the plan assumes a higher standard of conduct than is practicable. Experience has shown that it does not; and what English medical men can bring about in the borough of Leeds, American medical men ought surely to be able to accomplish."

Judge Bartlett then spoke of the laws in regard to the commitment and confinement of the insane. A physician is not justified, he says, "in certifying to the insanity of a person he is called to see, simply because some member of the patient's family gives him a long history of the hallucinations of the invalid, or because some other doctor assures him that the man is mad. He must examine into the case himself to the best of his ability and in the light of all the medical knowledge he possesses. If he does this he will incur no liability even for erroneous judgment. If he does less than this, and certifies that a person is insane who turns out to have been sane at the time, he can be held responsible by the injured party. Too much care can hardly be taken by physicians in the preparation of lunacy certificates, or by judges in passing upon them when presented for approval. In my opinion the judge should always require the attendance of one of the physicians before him, if not both, and should personally inquire as to the facts in addition to the matters set out in the certificate. I am aware that some physicians deem it a hardship to be compelled to attend court for this purpose,but such should let others act in their stead. The approval of the certificate by the judge was not intended to be only a formality. In fact, no act in the administration of this portion of the lunacy laws can be properly deemed a mere matter of form. The popular distrust of the management of the lunatic asylums, however, has always been so great, and the horrors attending the incarceration of a sane person in a mad house appeal so vividly to the imagination, that the State could well afford to do something to assure the public from time to time that none but lunatics are prisoners in these institutions. This might be accomplished through the supervision of the courts, to whose care the interests of all persons of unsound mind are expressly committed by statute. If in each of the five judicial departments into which the State is divided the Supreme Court were empowered to appoint a qualified expert in insanity every year whose duty it should be personally to examine every person imprisoned as a lunatic within that department and report the results of his examination to the court, it would be rendered tolerably certain that no abuses were being perpetrated, and the assurance would be worth all it might cost in the way of compensation to the five physicians for their services."—*Ed. Chi. Med. and Surg. Jour.*

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## COMPLICATIONS FOLLOWING ABDOMINAL SECTION.

BY J. M. BALDY, M. D., PHILADELPHIA.

The attention of surgeons, in the past and at present, has so commonly and almost exclusively been called to the perfection of the different abdominal operations, that the possible complications which may follow have been lost sight of, or, if noticed at all, they are kept locked up in the bosom of the individual himself, and the profession at large hears and consequently knows very little

about them. In consequence of this, medical men are continually running across these patients, and are having their faith in the value of the original operation shaken. Most men go into an operating room, see the operation, have a pathological specimen shown them, and then go away, satisfied as to the justifiability of the operation and confident as to the results. They may or may not see the patient several times during the treatment, but are generally satisfied with an inquiry as to how the patient is progressing, and finally have the satisfaction of hearing that she is well and has been discharged. The case is probably reported as cured to some society or medical journal, and thus the favorable statistics are swelled, and inexperienced and untrained men are led into attempting the operation, usually with the result of sacrificing several lives, before they are frightened off.

It is about time for surgeons to look at and seriously study some of the dark sides of abdominal surgery; for a dark side it certainly has. Our results, as far as removing disease is concerned, are about perfected; let us now turn some of our energies into preventing or alleviating some of the after-complications, which are in many cases as bad as the original disease itself. They do not probably cause such immediate danger to life, but produce symptoms just as hard to bear, as far as the patient is concerned, and to her belief, fully as bad at times, as her former trouble.

When I first began to give special attention to gynecological surgery, especially the abdominal variety, I was considerably worried that my cases did not always run as smooth and uncomplicated a course as I had been led to believe that those in the hands of my friends and others did. That they were not perfectly well when they got up, and came to me sometimes for weeks, complaining of one thing or another, was a source of great mortification to me. And finally, I began to find that troubles continued and others appeared, which it was extremely difficult to control. At first, supposing that I was the only one so afflicted, I thought there must be something radically wrong, either with my operations, or with my handling of the case afterward; and yet I could not reconcile these thoughts with the fact that I usually had the very best of assistance at the operation, and the constant advice of most competent men in the conduct of the after-treatment. Now I am constantly seeing and hearing of cases with troubles similar to my own, and also some with complications I have never personally met with. These cases are by no means confined to the practice of any one man, or any class of men, but represent patients of nearly every prominent operator in this city. Nor do I think that these results are confined to Philadelphia, but that they will be found wherever abdominal surgery is practised.

To consider fully the causes, prevention, and cure of these complications, is beyond the scope of this paper; my object being simply to call general attention to their frequency and to make a few remarks on the most common of them. Some of the subjects have been, from time to time, noted by other surgeons, and have been called to the attention of the profession, only to be dropped, almost as if they were subjects not to be handled and publicly discussed. Among the most frequent of these might be mentioned: hernias, simple fistulous tracks, fecal fistulas, pain, pelvic or abdominal, edema of the lower extremities. I have seen many patients suffering from all of these troubles, and have had some of them follow in my own practice.

Holmes has found that he had thirty per cent of hernias following his operations. Now as these cases were for the most part hospital patients, he could certainly not have kept track of them all, and so if the whole truth were known the percentage would be much higher. It would seem at first sight that a patient developing a ventral hernia would return for treatment; but not so, for in my own experience, with the exception of one patient, none of them ever reported, and I only discovered their existence from outside information. Thirty per cent is, I think, a fair average of hernias following section. Most of the operators, with whose work I am familiar, have, I am confident, almost if not quite that

proportion. I know of many cases in this city, of which the operator himself is not yet cognizant. Now a ventral hernia is by no means a harmless thing. I can recall women who suffer almost as much from the presence of the hernia as they did from the original disease—in fact more so; one case I know of had originally a small unadherent ovarian cyst, found in the course of a general examination, and which gave her few if any discomforts; she now has a good-sized ventral hernia, from which she suffers considerably. These hernias constantly tend to increase in size, and when the woman is one who must be on her feet constantly, carrying heavy burdens, lifting heavy weights, or in fact doing anything which will increase the tension at the abdominal opening, the result must invariably be a rapid enlargement of the protrusion, with all the accompanying distresses. There is no good reason why some of these hernias should not, eventually, from various causes, become strangulated, and require a second and more serious operation; this has indeed actually occurred. The mere protrusion and displacement have caused so much trouble that an operation has been devised for the closure of the opening.

The causes of hernia have been somewhat a matter of dispute, some contending that the drainage tube is most at fault, while the advocates of the tube repudiate that idea. Then again improper suturing is charged with the results. Whatever the cause, the lesion is certainly a lack of union of the muscular tissues and of the deep fascias; the remedy is plainly that of securing perfect apposition of the edges of these tissues. Time is frequently a most important element in an operation, and there is no need of wasting it by passing a separate row of sutures, in the peritoneum itself, as has been advocated and practised in some of our neighboring cities. The peritoneum always unites, and does so in a very short time. As far as I know, it has never failed to do so, excepting in those cases in which the whole incision failed. The hernia is always found to have a covering of skin, superficial fascia and peritoneum. It seems to me that a continuous catgut suture of the muscles and deep fascia is all that is needed, beyond the usual all the way-through suture. I can recall a case in which the presence of a hernia, by demanding an operation for its closure, resulted in the death of the woman.

This city now contains a large number of women with fistulous tracks in their abdomens. Some of these have followed the use of drainage tubes and others have been produced by abscesses that have ruptured through the incision, leaving a track which has never closed. The extra-peritoneal method of treating the pedicle in hysterectomy is a very frequent cause of fistula. The length of time it takes the clamp to come away is often so great as to leave an opening, which constantly discharges pus—in small quantities, it is true, but yet enough to be exceedingly annoying and uncomfortable to the patient. I have had two such fistulas following hysterectomy, and neither of them have I yet been able to cure; one, however, now gives fair promise of soon closing. I have, fortunately, had no other fistulæ following my operations.

One patient I know of was a few years ago operated on for some pelvic trouble, and after a few weeks she was sent to her home, with a drainage tube (rubber, I think) in her abdomen. The surgeon lost sight of her, and the tube being neglected, soon bacame most foul. The patient afterward drifted into one of our large hospitals and there died.

Another patient was operated on for a pus tube; the second tube and ovary, being apparently healthy, were left *in situ*, but these afterward took on disease and a second operation failed to remove them. A third operation was undertaken, by another surgeon, with what result was never known except by a select few; certain it is that a fistulous track followed, after a severe illness. This woman also finally found her way into one of the general hospitals, and was miserable enough to die, if she did not do so; what finally became of her I do not know.

A third patient had one side of a double tubal trouble removed, and the drainage track never closed. I saw this woman a year or

more after the operation, on her death bed. The track was discharging pus freely, and always had done so; before her death, feces were also finding their way through the opening, a slough having evidently come away from the bowel.

A fourth patient, after everything else had been done without success, had a counter opening made into the vagina, by another surgeon into whose hands she had fallen. The operation, unfortunately, opened the bladder so high up, that it was impossible to repair it; she has now a vesico-vaginal fistula in addition to her other troubles, and at last report was in a dying condition.

And so I could go on with case after case, some as bad and some not so bad; but at its best, a fistula is a most miserable complication and too much attention cannot be given to its prevention. If the drainage tube is not responsible for the hernias, it certainly is for a large number of the fistulas; and, although I am a firm believer in the great benefits to be derived from free drainage, I fully realize its disadvantages and often wonder if it could not be done away with oftener than it is. The great preventative of the formation of these fistulas is the prevention of abscesses and the necessity of their subsequent discharge; if they do form, it is better to go boldly in and empty them at once, than wait and have them open by a slow, tedious and uncertain process, which may not be brought to an end before the patient dies; the avoidance of the unnecessary use of the drainage tube, and when it is used, the most careful attention to its cleanliness, and its early withdrawal. I believe a permanent track results oftener from an unnecessarily prolonged use of the tube than from any other cause.

Fecal fistulas are not so common, and yet enough of them occur from time to time to be a warning of the danger of their production. When they do occur, they are usually so deeeply seated and so bound around by inflammatory products that they cannot be reached, and if they are reached, as a rule, they require one of the most dangerous and difficult operations in the whole range of abdominal surgery. I can recall a number of these accidents; one could not be reached after an extended trial, and the whole incision was closed up in order that the patient might die as quietly as possible; this she did not do, however, but lived in spite of everything and the track afterward closed of its own accord. Another case required the most constant and careful irrigation, after an unsuccessful attempt had been made to reach it, to save the woman's life. And so they go; if an attempt is made to close them, a great risk is taken; if they are let alone and do not close spontaneously, the patient had better be dead. The usual cause, as far as I have been able to observe, is intestinal adhesion to diseased organs. After tearing a loop of gut loose, I have returned it in fear and trembling, lest a piece at the point of adhesion slough out and give me a fecal fitula. The prevention consists in the greatest care in tearing loose each adhesion, and a most careful attention to the after treatment. When fistulæ occur, they are best left alone.

A continuance of pain, or the appearance of a pain not before present, following abdominal section, is so common that every one engaged in this kind of surgery must have noted its frequency. The pain is usually not very severe, but is of a constant nagging character, such a one as so constantly to wear on a women's nervous system that it soon renders life a misery to herself and makes her a burden to every one around her. At times, however, it assumes a severe character and becomes almost unbearable. I have known of a large number of such cases, some of which required an operation for their relief. In two cases of this kind the only lesion found was an omentum adherent to the abdominal incision, the freeing of which cured the pain. Many others are now going about, suffering as much as they did before the operation. Most of this pain is, I believe due to adhesions formed between the omentum or intestines and raw surfaces left by the operation, and the subsequent dragging on these points. This would seem to be true, as most of the cases which I have known of and which were operated on,

and in which the adhesions were released, have been cured, or nearly so. I also think that the adhesions in the original disease often cause most of the suffering; this is especially true in the pelvic cases. From these same adhesions, we have sometimes an obstruction of the bowels, either at once or later, after convalescence, which results in death. I can remember several cases of this kind, which could be explained in no other way, and, in fact, some of which were demonstrated to be so by a post-mortem examination. The remedy for their formation and all their attendant dangers and discomforts, is to keep the bowels soluble, so that there can be no chance for adhesions to occur. The best way of accomplishing this is by purgatives, and by not using opium. Fortunately the indications for purgatives are so many and so constantly present, that they can almost always be used.

Edema of the lower extremities, I have seen a number of times. Sometimes it is only temporary but at others it is of long enough duration and severity to be of considable annoyance and worry to both patient and surgeon. In my own practice this has occurred several times, but has always eventually disappeared.

When every person, about to undergo an abdominal operation, must run the gauntlet of all these complications, as well as many more unmentioned, it becomes a serious matter in deciding for or against an operation. We have here to consider more than the immediate risks to life; we must think, if the patient has his or her present disease removed, will she be any better off, or may she not be the worst for the interference? At any rate, such a state of affairs should be a warning to inexperienced men not to be misled by the brilliant reports seen in the journals, and not to rush thoughtlessly into an operation, expecting to obtain the same perfect results. They should know that, as a rule, only favorable cases are reported, and that men do not like to publish to the world their bad work or misfortunes. Abdominal section is by no means the simple, easy procedure some men would make us believe, and such an operation should never be undertaken except after the most careful consideration of all the risks that must be run, the chances of benefit to the patient, and in the presence of actual demonstrable disease. Until the dark sides of abdominal work are well known to the profession at large, the *furor operandi*, which has been so justly complained of, will continue, and many women will succumb as the results of inexperience.—*Med. and Surg. Reporter.*

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## THE MEDICINAL TREATMENT OF MENSTRUAL DISORDERS.

The treatment of symptoms alone, without regard to the underlying condition, of which the symptoms are but the expression, is often looked upon as unscientific and unworthy of the consideration of the true physician. It is, indeed, unscientific, and were it possible always to discover and remove the cause it would be equally irritational and unjustifiable. But unfortunately we are unable always to act upon this principle. We cannot always discover the cause, and, knowing or suspecting it, we are often unable to remove it. This is noticeably so in regard to menstrual irregularities, especially as occurring in young women. The general practitioner is often asked to relieve cases of this nature in girls, who would never submit to an examination or operation, preferring rather to suffer pain indefinitely than the shame of a physical investigation into the nature of their trouble. In such cases the physician is forced to try the effect of medicinal agents, groping, it may be, in the dark before insisting upon an examination. Such being the case, it is well to learn what remedies have been found to be of occasional service in relieving symptoms of this nature which are not dependent upon actual organic disease.

In a very practical paper, read before the Connecticut Medical Society at its annual meeting in 1888, Dr. Gideon C. Segur, of Hartford, presents a general view of the subject, giving the results of his own experience

and quoting the opinions of several prominent gynecologists whom he has consulted. A brief resume of these opinions is all that can be presented here, the reader who may desire a more extended presentation of the subject being referred to the original paper.

AMENORRHEA.—For this condition most of the authorities consulted recommended general tonics, iron, arsenic, and cod-liver oil. Permanganate of potassium, which was at one time so strongly recommended, does not seem to be in much favor, the objection to it being that it is too irritating to the stomach. Manganese was advised by some, and this is the remedy that the author has found to give the most satisfactory results. Most of the salts of this drug, however, cause so much gastric irritation that they cannot be used in most cases, but the binoxide seems to be an exception in this respect, Dr. Segur having used it in many cases with the happiest results and without seeing any disagreeable effects caused by it. A disagreeable feature of this remedy, in Dr. Munde's experience, though apparently not in the author's, was its unreliability. It might afford relief at one time, and yet at another, even in the same case,and seemingly under the same conditions, it would fail utterly to bring on the menstrual flow. The lactate of manganese is also free from the irritating action upon the stomach that most of the other salts of the drug exert. Manganese has the reputation of being an abortifacient, hence some caution is necessary in its use as an emmenagogue. But the maximum dose employed by the author is six grains a day, and this is far below that which has been used to produce abortion.

DYSMENORRHEA.—The opinions of the authorities consulted by the author concerning this symptom and its relief were most varied. Some thought no benefit could be obtained by any but operative measures, while others spoke hopefully of many remedies. Among those which seemed to have given most satisfaction to the writers were pulsatilla in three to five drop doses three times a day; cannabis indica, viburnum, camphor, belladonna, and antipyrine. Dr. Segur found manganese to render good service in these cases also, in many instances. The binoxide was used in doses of six grains per diem. The application of heat, by means of the sitz bath or douche, was a useful adjuvant to the internal medication.

MENORRHAGIA.—For this condition the most efficient remedies were found to be ergot, hydrastis, digitalis, sulphuric acid, fluid extract of gossypium, and gallic acid.

It is rather strange to find such a want of unanimity in the recommendations of these different authorities concerning the most efficacious medicinal agents for the relief of menstrual disorders. It is rather discouraging also as the number of remedies vaunted as useful in any particular trouble is generally in inverse proportion to its amenability to treatment. Yet, notwithstanding the discouragements which those who attempt to treat menstrual disorders by drugs often encounter, the physician is many times powerless to treat them in any other way. Dr. Segur has, therefore, rendered good service in collecting the opinions of so many experienced gynecologists, and in giving the results of his own efforts to relieve sufferers of this class, and we hope that the paper will be useful to many who may perhaps be able occasionally to cure some of these disorders by one or other of the remedies mentioned by the author.—*N. Y. Med. Rec.*

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SYPHILITIC PHTHISIS.—The characteristic signs and symptoms wbich distinguish the syphilitic form of the disease are chiefly an absence of well defined physical features in its earlier stages; frequently the only evidence of the disease being a wavy respiration or an impaired respiratory sound. However, when crepitation appears, it commences suddenly; and is usually of a loud, moist character, and may diffuse itself very rapidly over the whole side of the chest. Hemoptysis is generally a prominent factor; there are no persistent, well defined fever and night sweats; the expectoration is frequently tough, white, stringy and abundant; the patient, as a rule, is anemic, subject to diarrhea and vom-

iting, the marked anorexia and wasting do not appear early; and any change which occurs in the course of the disease, either toward recovery or death, is generally more marked and sudden than in the ordinary form.

The absence of fever, or the tendency of the fever to assume an irregular or obnormal course, I regard as one of the most valuable symptoms in differentiating this form of phthisis. Whenever I meet with a constant low temperature in such cases, my suspicion of infection is always aroused, in spite of the absence of other satisfactory evidence.—*Med. Times.*

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Turpentine Baths for Rheumatic Pains.—Make a concentrated emulsion of black soap, 200 grammes; add there to 100 or 120 grammes of turpentine, and shake the whole vigorously until a beautiful creamy emulsion is obtained. For a bath, take half of this mixture, which possesses an agreeable pine odor. At the end of five minutes there is a diminution of the pains, and a favorable warmth throughout the whole body. After remaining in the bath a quarter of an hour, the patient should get into bed, when a prickling sensation, not disagreeable, however, is felt over the entire body; then, after a nap, he awakens, with a marked diminution in the rheumatic pains.—*Med. Register.*

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A Supposed Bacillus of Cancer.—Professor Platon I. Kubasoff, of Moscow, has carried out a long series of bacteriologal researches on malignant (cancerous) new growths, and has arrived at the following conclusions:

1. The disease is caused by a special pathogenic rod-shaped microbe.

2. The bacilli have slightly ovoid outlines, and are arranged most in pairs and little heaps, their length amounting to one-fourth of the diameter of a red blood corpuscle.

3. In a pure cultivation the rods grow best on coagulated blood-serum at the body temperature.

4. When inoculated under the skin in animals, the microbe gives rise to a cancerous degeneration, commencing in the nearest lymphatic glands, and subsequently spreading to the internal organs, especially to the mesenteric glands, omentum, liver, and pericardium. In all the organs genuine cancerous nodules are formed.

5. Of lower animals, rabbits and cats prove to be most sensitive in regard to the bacterium. When inoculated they die in one or two months from cachexia, with generalization of cancerous foci all over the body.

6. All cancers (of any variety and any organs) seem to be caused by one and the same bacillus.—*Brit. Med. Jonr.*

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The Bee's Venom as a Remedy for Rheumatism.—The "*Union Medicale*" publishes an abstract of an article in the "*Wiener Medicinische Presse*" in which Dr. Terc describes a singular method of conferring immunity against rheumatism, namely, by saturating the system with the venom of the bee. The author had noticed that, when bees stung a rheumatic person, the little swelling produced by the sting in most persons was slow in appearing, and, if the stinging process was continued, finally failed to appear at all; then the person was free from rheumatism and reasonably safe against relapses. Dr. Terc is said to have carried out the process in 173 cases, in which 39,000 stings were required. He reports success in acute cases, but especially in chronic cases that had been given over as hopeless.—*N. Y. Med. Jour.*

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Pilocarpin in Icteric Itching.—Dr. Goodhart, of Guy's Hospital, was led, by reflecting that a drug which was so uniformly productive of speedy diaphoresis must profoundly modify the functions of the skin, to try the hypodermic injection of pilocarpin to relieve the intractable itching of chronic jaundice. He reports that, in every one of six cases in which he has tried it, it has been successful. The dose he used was one-third of a grain; which, it would appear, has to be repeated only every third day.—*Med. Times.*

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## REPORT ON PROGRESS.

### CURRENT LITERATURE IN GYNECOLOGY.

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II. EARLY RECOGNITION OF CANCER OF THE CERVIX UTERI.—*Md. Med. Jour.*

III. THE DISORDERS OF MENSTRUATION.—Dr. Andrew F. Currier in *Nashville Jour. Med. and Surg.*

IV. APOSTOLI'S PLACE IN GYNECOLOGY.—*Obstet. Gaz.*

V. GONORRHEAL DISEASES OF THE UTERINE APPENDAGES.—*Obstet. Gaz.*

VI. THE RELATION OF GONORRHEA TO GENERATIVE PROCESSES.—*Obstet. Gaz.*

VII. WHAT IS A DISEASED OVARY?—*Brit. Med. Jour.*

### MASSAGE FOR UTERINE FIXATION.

Dr. Wm. Goodell, in "Trans. Phil. Obstet. Society," says: I believe that massage of the fixed womb can be employed with propriety, and without the indecency alleged by some. He had, with Dr. Taylor, treated a case in which a pelvic inflammation had been set up by treatment at the hands of an irregular practitioner. She almost died, but finally recovered, with the roof of her pelvis feeling like a hard board. The womb was enlarged and absolutely immovable. She had menorrhagia and constant pain. He began treatment by application of a mixture of carbolic acid, iodine and chloral, and by using uterine massage. In doing this, one simply passes one or two fingers behind the womb and catching it from above with the other hand, rocks it from side to side and backward and forward, stretching the adhesions and separating them if possible. Dr. Taylor administered electricity locally. To-day she is in rude health.

### THE EARLY RECOGNITION OF CANCER OF THE CERVIX UTERI.

Impressed by the frequent complaint of patients in the New York Cancer Hospital that their attending physicians never told them that anything serious was the matter until their condition became hopeless, and convinced that general practitioners need to be taught that the successful treatment of uterine cancer depends on their early recognition of its presence, Dr. Coe gives in the *Medical News*, February 16, 1889, the result of his observations upon this subject, attempting to combat certain fallacies which are generally accepted, and to point out certain reliable points in the early diagnosis of the disease. Over one-fifth of the recorded cases occur in patients under 40 years of age. The disease may reach an advanced stage without producing cachexia. Many, in fact most, of the patients at the hospital, have been singularly free from pain, which, when it does occur, is a later symptom due to peritonitis. Profuse foul watery discharge is not always present, even when there is extensive ulceration. Slight, irregular hemorrhages, occurring after coitus or in the inter-menstrual period, should arrest attention, as they frequently result from incipient cancer. Premature climacteric hemorrhage (between 35 and 40) are usually pathological. In all cases in which a patient over 40 years of age seeks advice with symptoms (specially hemorrhage) referable to the pelvis, a careful examination should be made. The pain attending incip

ient epithelioma may be sharp, or merely a dull backache, or a neuralgia of adjacent nerve trunks, as the sciatic. Hypertrophy and general induration of the cervix, accompanying an erosion which bleeds easily when touched, should lead the physician to excise a generous wedge of the suspected tissue, including both the mucous membrane and the subjacent muscular tissue, and to submit this to microscopic examination. Excision of the cervix should be performed in every case of extensive erosion with general induration, whether cancer has actually developed or not.

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## The Disorders of Menstruation.

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Many theories of the causes and object of menstruation have been propounded. In its simplest meaning menstruation is a discharge of blood, epithelium and glandular secretions from the uterus, mingled with vaginal and vulvar secretions, due to a stimulus which produces congestion of the genital apparatus and attended by direct and reflex phenomena which probably depend mainly upon the congestion. The vascular supply of the ovaries is far greater than necessary merely for nutrition. This and the great plexuses of contiguous veins indicate an arrangement for repeated engorgements. Their great nerve supply and connections with many of the important organs of the body indicate their physiological importance and explain the existence of many so called reflex disorders. Menstruation seems the development and perfection of a function which has been observed with greater or less distinctness in almost every variety of animals whose habis thave been carefully studied. The testimony of Buffon, Cuvier, Saint Hilaire and many other eminent investigators is cited by Dr. Currier in proof of this statement.

Disorders of menstruation are thus classified.

1. Amenorrhea, absence of the menstrual flow.

2. Dysmenorrhea, the condition in which the menstrual flow is obstructed.

3. Oligomenorrhea, scantiness or insufficiency of the menstrual flow.

4. Polymenorrhea, excessive menstrual flow.

5. Atopomenorrhea, a menstrual flow which is out of place or unwonted.

Certain general principles are usually admitted. 1. Races or tribes that are least removed from animals most resemble the latter in respect to this function. 2. Nervous women seldom menstruate without discomfort. They frequently have dysmenorrhea or oligomenorrhea. 3. Influences located in the vascular system may be sufficient to determine great informalities in menstruation. A very weak heart may determine a scanty flow and a strong heart a profuse one. 4. Great elevation with diminished atmospheric pressure favors profuse menstruation. 5. A humid atmosphere is frequently a concomitant and probably a cause of amenorrhea or dysmenorrhea, or oligomenorrhea, owing to change in the pressure relations between the atmosphere and the fluids and gases in the body. 6. Women menstruate earlier in hot climates than in cold. In tropical climates it is not unusual for the first menstruation to occur between the ages of 8 and 12. 7. Extreme cold is always unfavorable to the regular and easy performance of the menstrual function.

Amenorrhea may obtain with those who have passed the menopause, whether prematurely or not. It does not strictly apply to those who suffer from retention of the menses. It may be temporary or intermittent. It may produce disturbance of the general system, but not unless there is a recurring congestion which must find relief or exit. When accompanied by symptoms there may be pain and discomfort in the pelvic region, pain in loins and head, and perhaps general malaise. It may be due to mechanical obstruction, the debilitating effect of wasting disease, to humid atmosphere, cold, etc.

Dysmenorrhea includes cases in which there is an obstruction, either mechanical or chemical, to the outflow of the blood. Pain is usually an accompaniment, but not necess-

sarily. There may be a soreness of the muscles or joints, nausea or vomiting, and even violent mental agitation. It may be due to weak heart action or deficient contractile power of the uterine muscle. It may be associated with sub-involution, with uterine displacements, obstruction by tumors and obstruction by hypertrophied mucous membrane. It may also be caused by various atmospheric conditions. Abnormal constituents of the blood or the normal constituents in great excess, the specific gravity being greatly increased may act as an efficient cause.

Oligomenorrhea is the condition in which the menstrual flow is insufficient to relieve the pelvic congestion. It may persist during pregnancy. It may be due to deformities or want of development of the organ, to uterine displacements, to obesity or to anemia.

Polymenorrhea is a term which must also be used in a relative sense of the last mentioned abnormality. The loss of a few ounces of blood may bring one woman to the verge of collapse, while another may lose great quantities for long periods without evident distress. It is not a necessary accompaniment of the menopause, but its occurrence at this time indicates underlying disease. Of all forms of menstrual disorder it calls for most active repressive treatment. It may be due to various diseases, or new growths of the uterus and mucous membrane. Occupations where there is constant exposure to great heat predispose to it—for instance, cooks and laundresses. Prostitutes and others who abuse the sexual act are frequently sufferers from this form of disease.

Atopomenorrhea is a term which is offered as a substitute for the inexact and inaccurate expression, vicarious menstruation. Its synonym, xenomenia, is etymologically correct. Displaced menstruation may appear by bleeding from the nose, gums, lungs, stomach, rectum or anus; from navel ulcers, fissures, fistulas and nipples; from the anterior chamber of the eye and the external auditory meatus, or it may appear as an extravasation into or through the skin in the form of bloody, sweating purpura, acne, etc.

All these facts tend to show that the monthly congestion in women is not local but general, or at such times that the vascular tension is so raised that vessels which are near the surface are much more liable to rupture than under ordinary conditions of tension and pressure.

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## Apostoli's Place in Gynecology.

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Dr. Horatio R. Bigelow read the following paper before the Obstetric Society of Philadelphia, Feb. 7, 1889.

After some complimentary remarks on Apostoli himself, Dr. Bigelow went on to discuss the armamentarium necessary for carrying out the electrical treatment. He thought it necessary to have a galvanic battery, a faradic battery, a collector, a galvanometer, intra-uterine electrodes for both currents within the uterus; bulbous charcoal-pointed electrodes of various sizes for galvano-caustic applications; intra-uterine platinum electrodes and large bulbous vaginal and rectal electrodes. The belly plate could be made of potter's clay, in which the metal plate could be buried, or better, is the plate devised by Martin, of Chicago. A good galvanic battery should have a slight chemical action, and great constantcy. The Leclanche cells, or those of Daniell, he thought the best. With thirty-six Leclanche cells, without a rheostat, a strength of from 300 to 350 milliamperes can be gotten. He thought that the collector was invaluable, and that to measure the dosage exactly was an absolute pre-requisite of success. The best galvanometer was that made by Gaiffe. The best faradic battery was that of Gaiffe, with a chloride of silver pile and the induced current of high tension from the long thin wire was the one to be generally used within the uterus.

"The induced current penetrates the tissue profoundly by reason of the high tension, but contrary to physical laws, the continuous current of low tention has a longer and more profound action. We have proved the diffusion of the electric currents and that the gal-

vanic current propels itself through organic tissues, its influence being first at remote points; the current never remains limited between the two poles" (Onimus). "If we now consider the difference that exists between continuous and induced currents during their constant passage, we find that it is not difficult to distinguish between them, as the line of demarcation is clear. The induced current acts for an exceeding short time during its passage. It produces at each instant of passage a greater or less excitation and causes molecular shock. The induced current acts mechanically as an excitant, the continuous current penetrates more gradually the tissues, but more profoundly, acting chemically in such a way as to produce molecular orientation and chemical combination." (Onimus). The induced current traversing the liquid, semi-liquid, or solid substances that go to form the human body, produces no chemical action whatever, simply a mechanical molecular disturbance. The continuous current, however, not only produces its chemical action at the poles, but this molecular disintegration and orientation is propagated throughout the zone between the poles. Just what the galvano-caustic action is that dissipates a tumor is not yet known; whether it coagulates the albuminoids or creates interstitial inflammation, he does not know. It does reduce the tumor, and it remains for us to find out the why. He believed that time would demonstrate a change of cell life in addition to the purely chemical action, which takes place around the poles. In Apostoli's clinic the induced current is not often used. It has a wondrous effect, however, upon the ovarian pain in hysterical women. Dr. Bigelow has now seen twenty cases of this kind and every woman received immediate relief after a seance of ten to fifteen minutes. He has seen a large number of bleeding fibroids, and has as yet to see one that failed to respond immediately to the continuous current, the positive pole being within the uterus. Apostoli often carries the current up to 350 milliamperes without any discomfort to the patient. It is most important that every part of the lining membrane of the uterus should be treated, and every hemorrhage, no matter how severe it may be, it will arrest. Dr. B. affirmed that the treatment would also very appreciably diminish the size of fibroids and at times entirely dissipate them. He quoted cases to prove this point. Punctures were made into the tumors to the depth of from 1 to 3 centimeters, with a lance pointed steel needle, the galvano-negative caustic being used, usually. Everything was religiously clean and antiseptic. None of the patients had any bad symptoms. He affirms that Apostoli's method arrests hemorrhage, diminishes size, relieves pain and improves nutrition without endangering life better and more surely than any other method, and asks, why then resort to Tait's operation of excision of the appendages? The cataarhal forms of salpingitis yield kindly to the simple action of the continuous current, one pole in the uterus. Dr. Bigelow is not yet ready to offer any decided opinion in regard to pyo-salpingitis. He, however, cited several cases where negative puncture of the tube relieved or cured the case. In metritis the galvanic or faradic current should be used, as one or the other agree with the patient. Apostoli says that "this treatment applied according to his double or bi-polar method is an excellent and sometimes sovereign remedy in certain cases (recent subinvolution, chronic metritis in its first stage), inefficacious or at least very insufficient in others (such as chronic metritis in its latter stages), and endometritis in any form." In endometritis the continuous current and the positive pole within the uterus are used. He cited cases of fungoid endometritis which had been cured. Dr. Apostoli faradized every woman, even when under an acute attack, who was suffering from peri-uterine inflammations, observing certain rules which he has laid down. In the sub-acute stage, he uses first bi-uterine faradization with a current of tension; when the inflammation begins to give way he uses the intra-uterine continuous current, beginning first with the positive pole and following with the negative as soon as he is sure that the pa-

tient can bear it. In the chronic stage he uses the continuous current and galvano-puncture (negative), making the puncture in the diseased part itself. In old cases of perimetritis with much tenderness around the utero-sacral ligaments, much relief may be obtained by the vaginal electrode in the posterior fornix, while the negative pole is on the abdomen, using the induced current of high tension.

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## Gonorrheal Diseases of the Uterine Appendages.

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Dr. Joseph Price read a paper on "Gonorrheal Diseases of the Uterine Appendages" before the Philadelphia County Medical Society, Feb. 13, 1889.

The attitude of numbers of professional men who express either incredulity or absolute disbelief in the causative relation between gonorrheal disease in women and pyosalpinx and abscess of the ovary, is sufficient justification for a still further discussion of this subject. My views upon the matter are based neither upon theory nor upon microscopic examinations. They are from surgical experience only or from confessions of men whose wives have been diseased by them. From the time that Noeggerath first formulized his belief upon this subject it has been smiled at, contradicted or controverted, but never in its essentials disproven. In his earlier paper Noeggerath fell into the common error of enthusiasts, that of attributing too much to his discovery, and claiming too wide a pathological field as the sequelæ of this trouble. This, without doubt, led many otherwise fair-minded men to pass over his paper as unworthy of attention, thus impeding the progress that otherwise would have followed its discussion and the observations based upon its claims. In taking up most later surgical works we find the etiology of ovarian and tubal disease considered from this standpoint omitted—a missing link, or differentiated out of sight. This is wrong. As early as 1877 Mr. Lawson Tait and others insisted upon the relation existing between gonorrhea in man and tubal disease in women. Noeggerath antedated him about five years. Mr. Tait also insisted on its causative relations to perimetritis, this as late as 1883. Schroder, in the early editions of his "Gynecology," insisted upon this as bearing a causative relation to ovarian and tubal troubles. In the very latest edition he says: "Gonorrhea, in the highest degree, appears as a causative disease in women." Sanger also is an ardent advocate of the same belief. He is wrong, however, I am persuaded, in holding that the gonorrheal infection is always late in revealing its presence in the woman when transmitted by the man. To this subject I shall refer later.

Without further collation of authorities upon this subject, I shall proceed briefly to its discussion. Whether or not the presence of the disease can be diagnosticated absolutely by the presence of gonococcus of Neisser, is of small importance, if by the chain of common evidence we can connect the presence of one disease with the other in their sequence. If, on discovering tubal disease in a woman who has never aborted nor had any of the diseases incident to childbed, who has been healthy up to a time, after which vaginitis has occurred, contracted from her husband, after which the woman from time to time experiences increasing pelvic pain, losing strength and weight—the case, it seems to me, is made out, save as quibbling may dispute it. This history occurs in most of the cases I have handled. Of the many cases that have come under my observation, I choose the following as illustrative and typical:

A young married woman, one child. Her recovery from childbed excellent; no gonorrheal infection of the child at birth. Some months afterwards she had inflammation of the vulvo-vaginal glands, with suppuration. Later she appeared with abdomen tense and painful, enlarged tubes and ovaries, tender and painful on the slightest movement or pressure; she had lost in weight and strength. Her husband confessed to the infection of his wife. The diagnosis was made of gonorrheal pyosalpinx, and operation proved the correct-

ness of the opinion. Both tubes contained pus, were cheesy and friable—the ligatures cutting through all but the vessels. The abdomen was full of fluid, and the intestines gave evidence of acute peritonitis.

The history here is complete, leaving no possible doubt as to the origin of the disease. The early infection here exhibited is at variance with the views of Sanger, and shows that his statements are not necessarily correct, or accidentally correct, if at all so. There is no sufficient reason why this infection should not be early. I incline to the belief that the disease originates early, but may be slow in its progress, and thus escape attention and discovery.

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## The Relation of Gonorrhea to Generative Processes.

Dr. Trangott Kroner, in a recent number of the *Archiv. f. Gynekol.*, discussess this subject, and finds reasons for objecting to the views of Noeggerath and Langer in the observation of women during child-bed who had suffered from gonorrhea. Of twenty-one women affected by gonorrhea who had borne children from two to four times, eighteen remained perfectly well during the puerperium. Of ninety-seven gonorrheal women only eight were confined before term, showing that gonorrhea has little or no effect in producing premature expulsion of the fetus. From bacteriological observation, however, he believes that in the majority of cases of disease of the urethra and cervix uteri it also extends to the endometrium. He believes also that sterility after gonorrhea is much more frequent in the male than in the female. In this he is in distinct opposition to Noeggerath and his school.

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## What is a Diseased Ovary?

Since the establishment of oophorectomy as a recognized operation, many pathologists have testified to the hopelessly disorganized condition of the structures which the surgeon has removed. Tubal disease, once considered a pathological curiosity, has been proved to exist as a common disorder by the researches of Dr. Kingston Fowler and Lewers. Forms of oophoritis, destructive to the ovary at least, if not also prejudicial to the organism, have been revealed by diligent and unbiased pathologists. Gynecologists of the older school mostly admit the result of these discoveries, but maintain that the frequency of signs of chronic ovarian disease in the bodies of subjects who have died of other affections counterindicates radical operations, or indeed any operation at all. The oophoritis, or salpingitis, detected in these cases, clearly failed to kill the patients, and evidence that medical relief was sought is ever defective. The specialists, however, note the hopelessly diseased condition of the ovaries, as corresponding to authentic clinical histories of bad symptoms, definite and objective, as well as subjective. They declare that cases believed to be cured by expectant treatment have applied to them for relief which was afforded them by oophorectomy. They further imply an imperfectly recognized motive—want of surgical confidence—in their opponents. No honest member of our profession can doubt that the older school are justified in insisting upon a close scrutiny of the results of operations for chronic diseases of the tube and ovary. The great operating specialists freely publish their results; but it is, in the present stage of our knowledge, extremely advisable that the inexperienced should abstain from these operations. Above all, science must throw more light on oophoritis. Dr. Nagel, of Berlin, is, therefore, to be congratulated on having published in the last part of the thirty-first volume of the *Archiv. f. Gynekologie* an article entitled "Contributions to the Anatomy of Healthy and Diseased Ovaries." The clinical material was chiefly supplied by Professor Gusserow.

Dr. Nagel does not believe in the chronic follicular oophoritis of certain pathologists. He considers that the condition simply implies an unusual number of follicles in a healthy ovary as an individual peculiarity.

The follicles, at least, are normal, however the condition of the stroma may be disputed; and his researches show that morbid changes in the stroma do not affect the follicles for a long time, but ultimately cause their disappearance. They cannot proliferate by any morbid process. Nor does Dr. Nagel lay any stress on "hydrops folliculi." Follicles over a centimeter and a half in diameter he found healthy, bearing ova. A large follicle, bearing its usual epithelium, but without its ovum, represents a degenerate condition, and cannot develop into a cystic tumor nor take any active part in the development of such a tumor. On the other hand, Dr. Nagel gives reasons why we may conclude that simple cysts of the ovary are generally cystic degenerations of the corpus luteum.

Oophoritis, however, he holds to be essentially interstitial, and he concludes, after examining a series of ovaries, that in all cases, directly an ovary becomes diseased, the interstitial tissue between the follicles, that is to say the stroma, is first attacked. The follicles retain their normal appearance, and continue to bear and nourish healthy ova for a remarkably long period after the onset of oophoritis. As Slaviansky has already indicated, the follicles begin to wither directly the morbid changes in the stroma have reached a certain limit. The atrophy is in some cases active, in othors passive. As a rule, circumscribed peritonitis is the cause of the disease, which progresses from the surface of the ovary inward. Dr. Nagel has, however, detected one case of true acute interstitial oophoritis as a primary disease. This form leads to Kiwisch and Klob's "hypertrophy with sclerosis," where the ovary can grow as large as a goose's egg, its surface appearing like a mulberry.

Dr. Nagel concludes that the later stages of oophoritis represent an incurable condition, and that operation is justified for the removal of ovaries so affected. The operator must, however, bear in mind his important observations, which tend to prove that every ovary a little fuller than he thinks it should be is not necessarily morbid, and that a cystic projection from the surface of a small ovary is not sufficient evidence that it ought to be removed. The histologist, too, would do well to study the healthy human ovary from its earliest stage of development to its normal condition of atrophy after the menopause, and to teach what he sees to his pupils. Many errors have gained ground through teaching students the histology of the ovary from specimens taken from the lower mammalia, where the sexual physiology is by no means the same as in women.

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## ORIGINAL ARTICLES.

### PRACTICAL MASSAGE.

BY FRANK R. FRY, A.M., M. D.
Clinical Lecturer on Nervous Diseases, St. Louis Medical College.

Read before the St. Louis Medico-Chirurgical Society, April 16, 1889.

Without making a tiresome explanation of the rather ambiguous title chosen for the brief remarks that I have to make this evening, permit me to state that it is not my intention to discuss the art of massaging. Neither have I anything to say about hygienic massage, so called, but simply a few words concerning its therapeutic value; and limiting myself still more, I prefer to speak of its therapeutic use in the shape of general massage, this latter being its most valuable and practical employment.

To Dr. S. Weir Mitchell belongs the undisputed credit of having first clearly demonstrated to the medical world the great advantages of treating certain patients with a general massage, combined with rest, forced feeding, etc. The S. Weir Mitchell treatment cannot be said to be by any means popular, although several years have elapsed since it was fully demonstrated to be an eminently practical and very valuable method. The reasons of this are, first, a prejudice against it on the part of both the profession and their patients; and, secondly, the fact that the details and length of time involved necessitate

an amount of pains-taking on the part of the physician and a sacrifice and expense on the part of the patient that deter them from undertaking it. At all events, I am prepared to state that this is largely the attitude of the community in which we live to the matter; and from what I read and hear I am led to infer that the same is true to a greater or less extent in the other cities of this country and of Europe. That its popularity increases, though, there is no question, and it is something we should become more interested in. To this end and in order to make my remarks of more certain practical value, I propose to consider the possibilities of our conducting this treatment here in the West, and more especially in this city.

Without going into the history and details of it, let us first briefly inquire into the range of its usefulness. Lauder Brunton (Disorders of Digestion, Their Consequences and Treatment) says: "In speaking of the disorders of digestion, I have left to the last one of the most important methods, and one which sometimes gives results little short of miraculous. This method was first introduced to the profession in America and England by Dr. Weir Mitchell in his book on Fat and Blood, and How to Make Them, but in this country it obtained little notice until it was undertaken by Dr. William Playfair. It consists essentially in passive exercise and abundant feeding. We all know how active exercise increases the appetite. Tissue-change goes on more rapidly in the organs, waste is more abundantly excreted, and more food is eagerly sought for.But there are many feeble, flabby persons who cannot exercise, or if they can, will not. Moreover, there are others who are quite willing to exercise the voluntary muscles of the limbs, but cannot exercise the involuntary muscles of their internal organs. Now treatment by massage helps both of these. It increases the nutrition both of internal organs and voluntary muscles; and under its use patients, apparently helplessly incurable, completely recover. Dr. Playfair has had wonderful success with cases of hysterical women; but I have been most struck with the success of the treatment in the case of a man in whom all medical treatment had proved useless.

"This patient, whom I first saw about two and a half years ago, in consultation with Dr. Image, of Bury St. Edmunds, was a very tall, powerfully built man, who had been accustomed to out-door life and much active exercise. He had at one time suffered from asthma, but this had left him, and he became liable to attacks of pain and vomiting. I was induced to look upon the case as one of neurotic dyspepsia, but other physicians who had been consulted, both in this country and on the Continent, regarded it as tubercular peritonitis. For two years he continued to become more and more emaciated until at length he was reduced to the appearance of a living skeleton. Only once in my life do I remember seeing a man so thin, and that was a person who was exhibited in a show. Dr. Playfair was at first doubtful about taking the case; but as Dr. Image and I were anxious that he should do so he kindly agreed, and in the course of eight weeks our patient was a different man. Under the use of massage and forced feeding his muscles enlarged until now he might perfectly well join a Highland regiment, and wear a kilt, without being ashamed. His muscles which had almost entirely disappeared, have not only become of normal size, but they are as hard as pieces of wood; and from being a simple skeleton, he is now a well developed man."

S. Weir Mitchell says (Lecture on Diseases of The Nervous System, especially in Women): "There is a class of nervous and exhausted, and hysterical women who are, as a rule, weak, pallid, flabby, disfigured by acne, or at least with rough and coarse skins; poor eaters, digesting ill, incapable of exercise, and suffering from the cold extremities which lack of this, with thin blood occasions. They lie in bed, or on sofas, hopeless and helpless, and exhibit every conceivable variety of hysterics.

"It has for some years been my custom, when in these women every other plan has failed, to deal with them by a certain combi-

nation of therapeutic means which has now been securely tested by time and hundreds of successes. It has stood the criticism and won the approval of many competent physicians, who have found in it a resource when all else had failed. * * *

"It is a plan never, in my opinion, to be used when exercise, outdoor life, tonics or change have not been thoroughly tested, but where these have failed it leaves us with a novel resource without which no case of broken constitution, nervousness or old hysteria should be left to hopeless invalidism, and to a life in bed or on a lounge."

I have selected the above quotations because from them we may, I think, form pretty accurate conclusions as to the scope of this plan of treatment; namely, that it is an invaluable method of dealing with certain otherwise intractable disturbances of nutrition that manifest themselves by the symptoms recounted above and others familiar to all experienced physicians.

As to the details of this treatment there is, with us in the West, at least, much misapprehension, due, I think, to the fact that the real object and rationale of it are not sufficiently investigated by those who would profit by knowing more of it before they form an opinion and decide that it is wholly impractical for their purposes. Brunton says, in the above quotation, it consists essentially in passive exercise and abundant feeding; Mitchell, that it is valuable to prevent rest from being hurtful. To one having watched and studied the course of several suitable cases through this regime it becomes apparent that its essential features are that with it may be gained all the advantages of active exercise without the demand for work on the part of the nervous, circulatory and muscular systems necessary in active exercise, and that by it the amount of exercise, rest and nourishment may be very accurately apportioned and kept under the control of the physician. With this method we may establish regular exercise where without it the benefits of exercise would have to be abandoned. With it we may obtain the good effects minus the bad effects of rest. With it we may bring about a proper assimilation of nutriment when all other means have failed.

All of these features must be constantly kept in view through the entire course of each case, the exercise, the rest, the nourishment. We may possibly arrive at more satisfactory conclusions as to their relative importance and proper association in cases, by considering them severally. The exercise is accomplished by massage. What must the massage consist in? In reply I would say, briefly, any manipulation, comfortable to the patient, that will accomplish in a practical manner the object to be attained. The services of a highly trained masseur or masseuse, although very desirable, are by no means necessary. The object is not so much to have what would be called a scientifically or artfully thorough massage, as a thorough going-over of all the parts by some few of the many massage maneuvers that shall be effectual in their results. The term massage in its modern sense includes certain manipulations, very numerous indeed, as will be seen by reference to works on the subject, but all included under four general heads, namely, frictions, pressions (which include the kneading manipulations), percussions and movements. A few of each of these kinds of manipulations may be soon and easily learned by an intelligent person. And if such person have the tact and endurance to put them into practical execution, and, what is more important, the requisite training to understand the necessity of obeying the physician's orders, such a one very soon becomes capable of giving all the aid in the way of massage necessary to this plan of treatment. It is always desirable and in the great majority of cases absolutely necessary to have the constant attendance of a trained nurse. It is very desirable also, for economy's sake and for other reasons that will readily occur without my stopping to mention them, to have the massaging done by the nurse.

In undertaking a few months ago to take several patients through what I considered to be a desirable course of treatment for their

conditions, I determined, if possible, to substitute for a very imperfect and unsatisfactory massage treatment that I had instituted in several instances a nearer approach to the S. Weir Mitchell treatment. In hunting for suitable nurses, whom I intended to have receive some preliminary instructions in massage, I was fortunate to find four graduates of the St. Louis Training School for Nurses, who happened just then to be receiving such instruction (from a gentleman then in the city, who, I am sorry to say, has since left it, for I had hoped to have him train others, including some men, for this work). They none of them thought they knew enough about massage to undertake the tasks that I wanted them for. However, they took much interest and care in the work and they have succeeded admirably. The skill that they have already attained, and their previous good training as nurses, make them thoroughly competent for this work. With their aid I have had a degree of satisfaction in it that I had hardly hoped I could gain in so short a time. Keeping in mind one or two simple rules, and with a nurse who can and will follow instructions, the practitioner soon finds that there is not much difficulty in adjusting the massage to the necessities of the case; the treatment should never be made irritating, wearisome or otherwise uncomfortable to the patient. In the beginning our chief concern should be to make it gentle enough; as we proceed and tolerance is gained, to make it active enough. In this matter the tolerance of the patient, properly estimated, should be our only criterion.

In determining the question of what shall constitute a suitable amount of rest in these cases, or in fact when we are and are not resting our patients, we have, to my mind, a much more difficult problem than that of regulating the massage, and one for the solution of which there is little opportunity to formulate rules. The majority of those whom we will find occasion to place under this treatment are nervous, hysterical women, sometimes physical and moral wrecks as well. With such we can accomplish nothing without complete seclusion, away from the "hurtful sympathy and over-zealous care," or, in some instances, the annoying and irritating influences of relatives. Ample experience has well established the necessity of seclusion in order to obtain rest in such cases. We should never let ourselves be betrayed, by the hope of making an exception, into a compromise on this point when our judgment shows us that it is necessary. We are almost sure to fail. The excellent results so often thus obtained are well worth making a stand for. Once having got the patient committed in this matter and under our control we have an advantage that we should proceed to make the best of, devoting time and thought and all possible pains toward making her physically and mentally comfortable. Having secured for her actual rest, even for a short time, the battle is half won, for with such rest comes a sense of comfort and contentment that has often been so long absent as to be almost forgotten. In these cases the massage should at first consist of nothing more than soothing friction on the face and extremities of short duration. As the patient gains in rest, the massage must be proportionately increased, but always made not only comfortable but grateful to her.

Those of our patients who are not of the distinctly hysterical type will be found to be suffering from a greater or less degree of feebleness, usually a great degree; for it is only when they find themselves becoming helplessly feeble that they, in the majority of instances, are willing to submit to this treatment. To most of these a degree of recluseness that amounts to almost complete seclusion is grateful, and it is only in this way that enough rest may be secured to enable us to institute an advantageous amount of massage. Among the latter class of patients are to be found many cases of intractable dyspepsia. Often the most important feature of the treatment, especially in the beginning, is to supply and regulate the nourishment so that we may establish a sufficient gain in nutrition to enable us to advance with the massage. Mitchell has shown the wonderful re-

sults to be gained by feeding large quantities of milk. There are possibly some cases in which milk cannot be used. But by proceeding cautiously at first, especially if we carefully use some of the well-known methods of partially predigesting and otherwise so preparing the milk that the stomach may more easily handle it, we may almost invariably soon have the patient assimilating large quantities of milk and other nutriment as well, which without massage and rest would be quite impossible.

It will be observed that thus far I have not considered the use of general massage, except in connection with the regime that is properly and conveniently called the S. Weir Mitchell treatment. In fact, aside from this there is little opportunity for a legitimate employment of it. However, with increasing facilities for its proper administration, and a better appreciation of its effects, I expect to see an intelligent adaptation of it to a wider range of cases than now seems possible. There is a class of cases where I am quite satisfied we may often use it to great advantage, namely, in certain cases of obesity, of even moderate fatness, in individuals with weak hearts, who, because of the latter rather than on account of their weight, are incapable of taking sufficient active exercise to maintain a proper standard of nutrition. These persons in attempting to diet for their fatness, or by taking various drugs and nostrums, often impair their nutrition to the extent of bringing about a dangerous degree of weakness, without having in any respect lessened their weight. In at least some of such cases we may by massage and a moderate amount of rest, more safely and rapidly than in any other way, reduce the weight, giving the circulatory system an opportunity to gain its equilibrium. I have recently witnessed gratifying results from this treatment in several instances—for example, the following: Mr. R., æt. 75 years. I had known Mr. R. for several years as a very active old gentleman, apparently in perfect health. He had been in the habit of walking a great deal for many years. Although quite stout he seemed capable of much of this exercise, frequently making his walk long, five to ten miles, without apparent fatigue.

I was first called to see him, professionally, November 30, 1888. I found his lower extremities and hands very edematous. His breath was short on slight exertion. He was unable to lie down for even a short time, having to pass his nights sitting upright in a large chair. He was constantly drowsy, sleeping most of the day and night, if permitted to do so. His pulse was feeble and intermitting. The heart sounds were also feeble. I found no evidence of renal trouble. After two weeks of treatment with digitalis, nux vomica and saline laxatives carefully used, with no appreciable good results, the family asked me to try massage. The improvement was so prompt and rapid as to leave no question that the massage accomplished a very desirable purpose. The edema rapidly disappeared and along with it much fat which the old gentleman could well afford to lose.

He is now enjoying his bed and his walks again; but, so far as I know, following my admonition not to over-do in respect to walking and other exercise. His heart seems quite capable of what it now has to do, keeping regular and strong in its action for two months past without the aid of drugs. In this case the massage was begun gently, but finally the patient enjoyed a very active dose of it, in fact, as strenuous as the masseur was capable of.

Bearing on this point is the following, quoted from Mitchell: "Dr. Wm. W. Keen has recently shown that in a case of albuminuria where the albumen disappeared entirely with rest and reappeared with exercise, the most extreme massage had no such influence as physical exertion. This curious and interesting fact suggests to us that the difference between exercise and massage must be far greater than has been supposed, and that probably the latter does not raise the blood-pressure as does the former."

WEEKLY MEDICAL REVIEW.

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SATURDAY, APRIL 27, 1889.

## ON PHAGOCYTES.

Dr. Wm. Osler has recently delivered a lecture upon this subject before the Alumni Association of the Bellevue Hospital, New York.

The question as to the extent to which the important process of phagocytosis is exercised in the body for good and for evil, under normal and pathological conditions, is not at all clear, and any paper that brings out anything new on this subject, or corrects the information already possessed, is interesting and valuable. Phagocytes are those cells of the body which possess amoeboid properties, and by the latter is meant not only the capability of free movement, but the possession of a power which enables a cell to take foreign particles into its interior. Such cells are derived from the mesoderma, and are met with in the adult body:

1. As the colorless corpuscles of blood and mucus.

2. The connective tissue cells, free and fixed with the connective tissue proper, or forming the supporting frame-work of the solid organs.

3. Cells of the spleen, bone, marrow and and lymph glands.

4. The vascular and lymphatic endothelium.

5. The alveolar epithelium of the lungs.

All these cells possess, to a greater or less extent, the power of taking solid particles into their interior, a function which Metschmkoff regards as a property handed down from the unicellar organisms. The action of phagocytes as normal physiological factors in the work of the body is important and familiar to many. There are many illustrations from comparative physiology of the important part played by phagocytes in certain transformations which animals undergo, of which the most common is the removal of tail and gills of a tadpole in the development of the frog. As soon as the hind legs begin to bud, leucocytes emigrate into the tail first, and then the gills, and remove them piecemeal.

The action of phagocytes in the body is seen with greatest facility in the organs of respiration, in which, with the cilia, they take part in the work of cleansing the air-passages. In this work there are several groups of cells engaged; the ordinary mucous corpuscles, the alveolar epithelium, the connective tissue elements of the pulmonary stroma, and the leucocytes of the lymph-tissue in the bronchial, tracheal, and mediastinal glands. If the particles of dust escape the activity of one they fall into the clutches of the next remote, until finally all the sharp irritating particles have been either removed from the body or have been placed in a position in which they could do the least harm,and though not expelled have been imprisoned.

Another physiological process in which phagocytes play a leading part is the removal and disintegration of the red blood corpuscles which have lived their life and are no longer fit for work. The cells containing the red blood-corpuscles which are present in bone marrow and in the spleen can hardly be regarded otherwise than as phagocytic elements with this definite function. In certain morbid conditions we see this process widely extended, and cells containing red blood-discs are seen in the liver, the lymph-glands, even in the blood itself; this is particularly the case in those states associated with rapid blood degeneration and destruction, as in acute fevers. In certain forms of anemia, so abundant are they in the bone marrow and the spleen, that they have been ragarded as directly concerned in the widespread hemo-phthisis. Phagocytosis has been studied in the process associated with absorption of extravasated blood. Blood escaped into

the tissues does not simply disintegrate and disappear, but the connective tissue elements are actively at work and take up into their interior no small proportion of the colored corpuscles.

In the intestinal canal the leucocytes assist to some extent at least,in the absorption of fat. The ameboid cells of the mucous coat become filled with fat-globules, and pass into the central lymph-vessels, where they disinteg rate, and discharge their load of fat granules, which have,meanwhile, in the protoplasm of the cell, been broken up into fewer particles which form the so-called molecular base of the chyle. Possibly, too, the leucocytes may take up other ingredients.

Turning now from the physiological side we come to the theory of Metschnikoff that these bodies play an essential part in the protection of the organism from the invasion of specific germs. His first paper bearing upon the phenomena of disease was first published in 1884. It embraced observations, carried on upon the common water flea, of the relation of the leucocytes to a fungus with which those insects are prone to be infected. The phagocytes attack the fungi which enter the body cavity from the intestines, and practically eat them; where one cell is insufficient,several combine to enclose the spores in large giant cells. If the invasion was in such large numbers, and the activity of the fungus so great, that conidia were formed, the resisting forces of phagocytes were insufficient, and the flea succumbed.

Following this line, Metschikoff proceeded to study the relation of leucocytes to anthrax bacilli, to the micro-organisms of erysipelas, and to various other affections. He likened specific inflammation to a warfare in which the invading army is represented by micro organisms, and the resisting forces by the leucocytes. Even in details the analogy was maintained. Notice of the arrival of the invaders was telegraphed, so to speak, by the vaso motor nerves; the line of communication, the avenues of mobilization, were represented by the blood-vessels. The aim of the invader is to secure the territory, to rapidly multiply, to live at the expense of his host, and to manufacture and circulate substances injurious to him. The aim of the resisting forces is to encircle the enemy, enclose him, digest him, and render him inert in battle. Many phagocytes die in the process, and, if in large numbers, the heaps of the slain represent pus; an abscess is a battle-ground densely packed with dead bodies. If victory remains with the invaders the organisms pervade the affected part, multiply, and induce conditions incompatible with the life of the part, or perhaps with the life of the entire organism. If the battle is with the host, the parasites are destroyed, perhaps not without loss, but the normal state is gradually restored. Practically, on this theory each organism is regarded as possessing a standing army composed of mesoblastic cells, capable of rapid reproduction and rapid concentration, one important function of which is to protect the organism against destructive agencies invading it from without.

Many observations have been made by Metschnikoff and others in favor of this view; into which we cannot enter. On the other hand, observations and arguments are numerous in opposition to it; and Baumgartner takes some of the descriptions of Metschnikoff as to the relative position in which germs and leucocytes are found as conclusively showing that the latter are not "the heroes of the day, but the hyenas of the field."

Observations of Holarfeld are directly opposed to phagocytosis. He finds in anthrax experiments that very few of the bacilli are taken up by the leucocytes, and that, in rats, they degenerate in a very few day after inoculation outside of the cells. He states that pus-formation is a conservative action against the penetration of the bacterial germs, but that the centralization of the action of micro-organisms depends much more upon the chemico-biological secretions of the tissues than on the property of cells to destroy them by inclusion. His view, in fact, approaches that of Ribbert, in ascribing the limitation of bacterial growth to nutritional changes, particularly to the restriction of oxygen rather

than to any phagocytic action of the cells.

Observations made by Osler in the plasmodium malariæ, show conclusively that in the blood, at least, there is very slight evidence of the existence of phagocytosis. Here and there, it is true, leucocytes are encountered which have included the ameboid forms of the parasite; but the number of such instances is too small to call forth the assertion that in the circulating blood the leucocytes attack and eat the parasites. Much more work must be done before a decision can be definitely arrived at for or against the theory of phagocytosis; and every one must conclude with Osler that while phagocytosis is a wide spread and important process throughout the animal kingdom, and while it undoubtedly plays a most important part in many pathological conditions, the question of an active destructive warfare waged by the body-cells against the micro-organisms of disease must still be considered an open one.

## Sanitation.

The nineteenth volume of the Proceedings of the Philosophical Society of Glasgow contains an address by the President, Dr. James B. Russell, "On Some Sociological Aspects of Sanitation," that embodies a good deal of sound sense pitted against the "survival of the fittest" theory of those who favor non-interference in matters affecting public health. Concerning preventable diseases he concisely calls attention to the property of local extension of such diseases; their habit of lurking in unsanitary quarters awaiting the opportunity to become epidemic; and the artificial and, therefore, remediable nature of the local conditions which foster endemicity. It is pretty clearly shown that even those communicable diseases, such as small-pox, measles, scarlet fever and whooping cough, which can scarcely be said to live upon uncleanliness, but attack man as man, are all aggravated thereby; that the soil which sustains the communicable disease in the endemic conditions and promotes the epidemic expansion, is the same which produces general unwholesomeness; and that whoever persists in a manner of life calculated to promotes communicable diseases injures himself first, but next, and with certainty, his neighbor. Under reasonable supervision, the power of the health officers to take care of our dirty neighbors can scarcely be too great.

The same volume also contains an abstract of a paper by Dr. David Pryde, on the spread of enteric fever and, possibly, diphtheria, in rural districts by the use of city manure for agricultural purposes, full of suggestiveness for the country physician. One familiar with the wretched sanitary condition of most of our farm and village dooryards, and the frequent contamination of sources of water supply from cess pools or vaults, can but breathe a prayer for delivery from the wholesale poisoning of the streams that feed the springs, by the reckless methods employed near some of the great British cities. W. T.

## Treatment of Intussusception by Inflation.

The subject of intussusception is one of great importance both on account of its gravity and frequency. Brinton collected a series of 500 cases fatal from some form of intestinal obstruction, and of these 215 were due to invagination of the bowel.

For many years treatment has been in the direction of attempts at reduction by the exercise of pressure from below by means of solids, liquids or gases. The passage of gum-elastic bougies up the rectum has been the means employed in some cases, and copious injections of warm water have also been successful.

Maydien used a mixture of No. 5 shot and olive oil, seven ounces of the former to four of the latter, and reported 12 cases; he has not found many imitators.

Taliaferro records the case of a prisoner who was cured by means of effervescing powders placed in the rectum by his jailer. Iced injections have also been used. But the methods more usually employed by physicians

is that of injection, first recommended by Gorham in 1838; which combined with the use of chloroform in children and the external manipulation is often successful; but it does not invariably succeed, even if employed at an early stage of the disease, and the patient requires constant and close watching.

Dr. Cheedle says: "The success of inflation in the cure of intussusception depends largely upon its early employment. Higginson's syringe proves of most use.

Fagge says upon the subject: "It has now been frequently employed and sometimes with the result of curing the disease. More often, perhaps, its success has been partial. The tumor has been reduced in size, or it has changed its position, returning towards the seat which it had occupied at an earlier period."

Its employment cannot be attended with too great care; trials should not be too prolonged, nor violent injections practiced. If there should be recurrence after once reducing, inflation may be again employed and with success. Elliott has repeated it many times in the case of a child, aged 8 months, when there was a most obstinate tendency to recurrence, and succeeded finally in curing his patient.

Chappy succeeded in reducing intussusception by injection five times in a boy, aged three years, but exhaustion proved fatal.

Bryant gives warning as to the danger of rupture of the bowel by the use of inflation; and Knaggs mentions several cases where perforation of the bowel took place, and proved the cause of death. Reasons for the failure of this and other treatment in intussusception arise often from the fact that no importance is attached by the parents to the earlier symptoms, or the gravity of the disease is not recognized by the medical attendant. There is also a feeling amongst some members of the profession against operative measures; they prefer to wait for the sloughing of the invaginated portion, an occurrence now recognized as rare and generally fatal in children.

The case reported at the end is culled from the *London Lancet*, and is the fifth successful case recently reported from Ormund St. Hospital for Sick Children. One of the other four had existed for a week; and the other three were recent. Besides these there have been 3 fatal cases reported from the London hospitals during the past year; the duration of these cases were 5, 7, and 4 days respectively. The third case was complicated with peritonitis; and in the second the gut was gangrenous. In all these inflation failed to reduce the intussusception. The importance of an early diagnosis cannot be too strongly insisted upon, but the record of the following case shows that even when an intussusception has existed for a week, the prospect of a cure is not hopeless.

W. A.——, a boy aged 14 months, was admitted on Dec. 3, 1888, with the following history. On Nov. 27, the child attracted the attention of its mother by screaming. He was found very pale, with his left leg drawn up on the abdomen, and apparently in great pain. He was given a dose of castor oil, which was vomited immediately; a second dose was also returned, and the vomiting continued though it was not noticed to be stercoraceous. On Nov. 28, he passed some blood by the bowel; and later, blood mixed with slime. The passage of blood and slime had occurred daily, and there had been no natural motion.

The mother ascribed the child's condition to some plum cake which he had eaten the day before he was taken ill.

On admission the child appeared very ill and collapsed, the pulse small and compressible and the eyes were sunken. The abdomen looked a trifle full, but there was no tenderness on pressure. A well defined sausage-shaped tumor could be felt on the left side of the abdomen extending from the hypochondrium to the iliac fossa. On introducing the finger into the rectum, the invaginated portion of the gut could just be reached, and a dimple felt on its posterior aspect. On withdrawing the finger it was found to be covered with slime. Inflation was immediately carried out after the administration of chlo-

roform. An ordinary Higginson's syringe was used, and the bowel was inflated with air until the abdomen became decidedly tense. After waiting a minute or so, the air was allowed to escape, and on examination the tumor could be felt in the left hypochondrium. After repeating the inflation, only an ill-defined mass could be made out to the right of the umbilicus; and after a third inflation no tumor could be felt in any part of the abdomen. The child was ordered one minim of liquor opii sedativus every three hours. He became easier after the operation, the pulse improved, and two liquid motions were passed within two hours after the inflation unaccompanied by blood. He vomited once, immediately before being put under chloroform, but had not done so since.

In somewhat over a week since his admission the little patient seemed perfectly well; the bowels had acted three times naturally, and the temperature was normal.

## Catamenial Bronchitis.

Dr. F. Rincon, of Venezuela, a corresponding editor of the *Annual of the Universal Medical Sciences*, has an article in a recent number of the *Satellite* on a form of bronchitis which, from the fact that it occurs only during menstruation and is dependent upon it, he calls catamenial. During an active practice extending over twelve years, he has observed a large number of cases of this trouble and upon these are based the following deductions with reference to its peculiarities and mode of production.

It presents itself in subjects poor in blood, and of lymphatic temperament, and also in sufferers from dysmenorrhea, or in whom the menstrual functions are not in good order. For the normal exercise of the female sexual functions it is necessary that the genital organs be sound and in good condition; that the nervous system which controls the animal economy have free action, and that the blood be in its normal condition. Furthermore, nature supplies to certain selected organs the functions which pertain to others, when the latter are not in condition to perform their tasks, and it would appear that nature, in the exercise of its habitual routine, and not finding the genital apparatus in proper condition, either *per se* or on account of nervous or sanguineous irregularity, seeks the bronchi. These become congested, thus producing febrile reaction and a thickening of the mucous membrane, and thus rendering difficult the passage of air and inducing all the symptoms of bronchitis.

Dr. Rincon has often attended young women supposed to be asthmatic, and has often witnessed the development of pulmonary disease in women who for a long time have suffered from bronchial attacks, the menstruation during the same period having been irregular; and he is forced from frequent observation of such cases to consider catamenial bronchitis as predisposing to phthisis.

The disease presents itself some days before the menstrual period, or during its course, this depending upon whether it is entirely supplementary to the menstrual function, or its coadjutor; if supplementary, it appears almost always during the regular menstrual period—he has never observed it after this has passed. It is accompanied by uterine colics, pains and cramps, which is often unknown to the physician on account of the failure of the excessively modest patient to give precise explanations. This is an important diagnostic point and must always be inquired into. Women suffering from dysmenorrhea and who have made use of strong excitants, such as rum, ammonia, etc., are also liable to be attacked with this type of bronchitis.

The disease is only relatively grave in its character; it does not in itself endanger life, but it predisposes the system to contract more serious diseases. Its progress is at first rapid, and usually lasts during the menstrual period, but it extends in duration as the months and years pass, with irregular menstruation; the attacks have at times continued for fifteen days, and not rarely have the attacks been observed in the course of one month which were confounded with asthma.

As to treatment, the true bronchitis is first attended to at the moment of the attack by means of sudorifis, laxatives and hot applications to the breast and back, when there is strong febrile reaction accompanied with dyspnea, pains and difficult respiration; in other words, when there is intense bronchial congestion. With the object in view of removing the cause and preventing attacks in the future, the physician should investigate whether the malady is coincident with the menstrual epoch, and if the menses present themselves with due regularity. Should it be found that the disease is coexistent with the menses, and that these do not occur regularly, efforts should be made after the acute period is over to restore their normal action. There has always been accounted as a cause of catamenial bronchitis (except in cases of organic degeneration of some one of the genital organs), either a lack of plasticity of the blood or a lymphatic temperament. Treatment has, therefore, been directed to the correction of these two conditions, and in the former case phosphate of iron has been prescribed with the best results, while in the latter cod-liver oil and small doses of iodide of potassium are indicated. In connection with the medicinal treatment, nourishing food, generous wines and moderate exercise are always recommended. This treatment is deduced from an observation of thirty-six cases, in all of which a cure was effected. In the other cases, the long duration of the disease and the use which had been made of excitants, produced in some chronic metritis of the neck, and in others it formed the primary elements of phthisis.

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## The Treatment of Tenia.

Dr. L. Duchesne, in the *Jour. de Medicine de Paris*, speaks of the efficacy of the following preparation in the treatment of tenia:

1. Fresh bark of the pomegranate root.
2. Pelletierine.
3. Capsules of the ethereal extract of male fern and calomel.

Pomegranate bark is of no use unless it is fresh. It is prepared for use in the following manner: 60 grammes of the bark are allowed to stand in 750 c.c. warm water for two hours, after which the mixture is boiled down to 500 c.c. The whole of this is given to one patient. Patients take to this treatment much less kindly than to the others; moreover, the administration of it must be preceded by one day's fasting and an injection. A purgative should follow one hour after the administration of the decoction. One must also use a great deal of water in the administration of pelletierine, both during and afterward, which is a serious obstacle, especially in the case of women. The most serious objection to pelletierine, however, is its frequent tendency to provoke vertigo, which at times becomes alarming. It also produces nausea. It is much more active and efficacious than the pomegranate bark, being successful in seventy-nine out of one hundred cases.

Duchesne much prefers to these two the male fern combined with calomel according to the following formula:

| | |
|---|---|
| Eth. extract male fern, | 2 drachms. |
| Calomel, | 12 grains. |

M. Make 16 capsules, which are given two at a time, every ten minutes until all are taken.

The great advantage of this preparation is that the patient has nothing to drink, and that the purgative is taken along with the worm-medicine. For some people, especially women, capsules are difficult to take, in which case the medicine is perhaps best taken with molasses. Sometimes the capsules provoke colicky pains, but these can be avoided by taking 20 grains of antipyrin fifteen minutes before the capsules.

With these capsules Duchesne has yet to experience his first failure, and he has already used them in hundreds of cases. Male fern is the only remedy that will successfully expel the bothriocephalus.

The treatment of tenia in children is a difficult matter, but he has been regularly successful with the following plan: After fast-

ing twelve hours, administer the following preparation to a child of five years:

Eth. extract of male fern, 1 drachm.
Calomel, 6 grains.
Sugar, 2 drachms.
Gelatin, g. s., to make a jelly of ordinary consistence.

The patient should be told to take an injection of salt water when the worm appears at the anus, and then sit over a vessel of warm water to float the worm and prevent it breaking from its own weight.

The one point always to be remembered, on which success depends, whatever the vermifuge used, is the necessity of administering the purgative soon after the substance which stupefies the worm.

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### Tetanus, a Sequel of Gastric Dilatation.

M. de Beurmann reports in *La France Medicale* a case of a man affected with dilatation of the stomach whom he followed several years, and who finally had a well marked attack of tetanus lasting thirteen hours and causing death by involving the muscles of respiration. Cases of this kind are not rare; fifteen are already recorded, the first of which is one reported by Kussmaul in 1869. Attacks of tetanus of gastric origin are of extreme gravity; eight out of the fifteen cases died in this manner. Many days before the attack, Beurmann's patient had creeping sensations in the extremities; and the author suggests that this might be a prodromal symptom, the recognition of which would perhaps enable one to ward off the threatening spasms.

Finally, Beurmann reviews the theories which have been advanced to explain the pathology of this complication. They are three in number; but the most plausible one is that of Bouchard, according to which it is due to an auto-intoxication by toxic convulsivant substances which are developed by micro-organisms present in the dilated stomach.

### MEDICAL ITEMS.

Cats in Diphtheria.—In a report to the Central Board of Health of Melbourne, describing an outbreak of diphtheria, the cases occurring almost simultaneously in the neighborhood of Daylesford, the local health officer has furnished a report pointing out the strong prima facie evidence that the children contracted the disease from cats, numbers of which are said to be dying in the neighborhood.

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Faith Cure.—The dangers attending faith-cure meetings may extend even to a spectator. The *Boston Med. and Surg. Jour.* gives an account of a young farmer who attended a meeting. A recent convert, a young lady of twenty, attended the meetings regularly, and would go into trances on the slightest provocation. While in the trance sometimes she walked. This evening she came down the aisle, passed the farmer, but as she did caught his hand with a grip so firm he could not be freed. She continued to walk, the farmer compelled to follow. Being a good pedestrian she continued to walk for nine consecutive hours. When freed the farmer lost no time in getting out of the hall, and is now taking care of a swollen disabled hand.

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Kaposi, *Med. Age*, says that a solution of one part of corrosive sublimate in thirty parts of collodion, painted on and around the base of a wart, will in a short time couse the excrescence to disappear.

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A chair for physical examination for life insurance has been created in the University of Vermont. Dr. Stillman has been elected to the position.

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In a paper read, April 5, before the section on Public Health, Hygiene and State Medicine, on "Efficiency of Filters and Other Means Employed to Purify Drinking Water, Bacteriologically considered," Dr. C. G. Currier stated that most of the filters in the hands of the public were useless and worse

than useless, so far as any protection from disease germs was afforded by them. Of all substances thus far furnished for domestic filters porous porcelain, rebaked and carefully selected, he had found to be the best; though boiling for at least thirty minutes afforded the only absolute protection in drinking water.

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Lime-Water in Diabetes.—Dr. Theo. Clemens claims that the use of ℥j. to ℥ij. of lime-water daily will prevent the tendency to diabetic coma in the diabetic.

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Drs. T. M. Prudden, H. M. Briggs, and H. P. Loomis, the pathologists of the health department have been requested by the board of health to "formulate a brief and comprehensive statement regarding contagiousness of tuberculosis in man; stating therein the evidence of the same, and recommending in the briefest possible manner the simplest means of protection from its influence.

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An Army Medical Board will be in session in New York City, N. Y., from May 1, to 31, 1889, for the examination of candidates for appointment in the Medical Corps, of the United States Army, to fill existing vacancies.

There are at present seven vacancies in the Medical Corps, to which one more will be added in July by the retirement of a medical officer, making eight appointments which are to be recommended by this board.

Persons dssiring to present themselves for examination by the board will make application for the necessary invitation to the Secretary of War, before May 1, 1889, stating the place of birth, place and state of permanent residence, and enclosing certificates based on personal knowledge from at least two persons of repute, as to American citizenship, character and moral habits. Testimonials as to professional standing from professors of the medical college from which the applicant graduated, and of service in hospital from the authorities thereof, are also desirable. The candidate must be between 21 and 28 years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the board.

Further information regarding the examinations and their nature may be obtained by addressing the Surgeon-General U. S. Army, Washington, D. C.

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A dermatologist, being seated by a lady unknown to him at dinner, when conversation lagged, remarked interestingly, "Have you noticed the spots on that man's face across the table?" To which she indignantly replied: "Excuse me, sir; that man is my husband!" The skin man, being a Briton, and so never to be crushed by circumstances, most enthusiastically said: "Ah! that is fortunate, then you can tell me whether he is spotted like that all over, cawn't you?"

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Dr. David W. Cheever, of Boston, has presented to the trustees of the City Hospital the sum of $2,000, the interest of which he wishes to be invested to the buying of a case of surgical instruments for each house surgeon on the completion of his term of eighteen months' service at the hospital.

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The legislature of Pennsylvania has been asked for $100,000 to aid the Veterinary Hospital of the University of Pennsylvania, and the appropriation committee has recommened an appropriation of $50,000.

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The craze for spaying women is fast dying out in New York. It is now conceded by the most aggressive gynecologists here that the operation has been fearfully abused. There can be no doubt that the operation is sometimes necessary, but the wholesale sacrifice of ovaries that was once so prevalent here, and from whence some of our Western gynecologists caught the infection, is a thing of the past. I have seen two cases here, but in each the ovaries were extensively diseased and the tubes distended with pus. They were a constant source of pain and sickness to the patients, who were incurably sterile, and the proper thing to do was to take them out. But

they presented a striking contrast to the normal tubes and ovaries that I have seen exhibited, in times past, to the Marion County Medical Society.

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A correspondent at Samoa writes to the *Med. and Surg. Reporter* of the native customs: At daybreak the entire village, men, women and children go to low water mark at the ocean beach, and defecate. In case of need one may go there at any time, but the great exodus from house to "habit" is at the earliest hour of morning. A stone is used as water-closet paper. Women always urinate in a standing position; men squat. Puberty begins at eleven or twelve years of age. Parturition is short and attended with but little pain. The patient is attended by neighboring women. No prevention to conception is even thought of. Not even for cleanliness' sake is a wash indulged in after connection. Children are loved and a large family honored.Even what they are able to do on their own account in child bearing does not satisfy many families, and child adoption is common, and the child adopted becomes the special pet of the household. Criminal abortion and infanticide are almost unknown. Family and marital relations are strict; prostitution is unknown in Samoa. I have the testimony of officers who have spent many months among these people that the women, both married and unmarried, are most wonderfully virtuous. It is candidly admitted by even the enemies of mission work that this has been so only since the teaching of the missionaries has begun. Twin births are very rare. I should have mentioned that the woman after confinement is about in a few hours, and in a day or two at her usual occupation. Great care is taken to preserve the flow of milk; large amounts of cocanut milk are drunk to favor a full supply.

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The meeting of the American Medical Editors Association will be held at the Casino at Newport, Monday evening prior to the opening of the American Medical Association.

The program will be, the annual address by the President, Dr. W. C. Wile, entitled, Our Duty as Journalists, and the Reforms we Should Persistently advocate. A paper by Dr. F. L. Sim, of the "Memphis Medical Monthy," entitled, The Medical Editor's Retationship to the General Profession, and one by Dr. T. D. Crothers, entitled, The Influence of Medical Journalism on the March of Science. The discussion of these papers will be opened by Dr. Henry O. Marcy, of Boston, and followed by Dr. Leartus Connor, of Detroit, "American Lancet," Dr. William H. Pancoast, of Philadelphia, "Medical Register," Dr. William Porter, St. Louis, "Weekly Medical Review," Dr. Dudley S. Reynolds, Louisville, Ky., "Progress," Dr. Wm. F. Hutchinson, Providence, R. I., "New England Medical Monthly," Frank C. Furgeson, Iddianapolis, "Indianapolis Medical Journal," Dr. I. N. Love, St. Louis, "Weekly Medical Review," and Dr. Wm. B. Canfield, Baltimore, Md., "Maryland Medical Journal."

The editor and staff of the *New England Med. Jour.*, together with a few friends, will tender to the Association a steamboat excursion, with plenty of water on board, and at the end of the sail a regular old-style clam bake. It is hoped that each and every editor or editorial member of the staff of any medical journal published in the United States or Canada will consider this an invitation to come and have a good time. Tickets may be had at the meeting on Monday evening from the editor or any member of the editorial staff of the *Monthly*, who will form the committee of arrangements. The date of this trip has not yet been decided upon, but will be announced later. It is unnecessary for us do add that we expect every guest to bring his wife or his sweetheart.—*N. E. Med. Monthly.*

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A Substantial Compliment to a Surgeon.—An "ordinance to pay Dr. A C. Bernays for medical attendance on a member of the police force. * * *

"Sec. 2. There is hereby appropriated and set apart out of Municipal revenue to pay

Dr. A. C. ernays, the sum of fiive hundred dollars.

Approved March 30, 1889."

It is a rare thing for a City Assembly to pass a special ordinance appropriating a sum of money towards paying a member of the medical profession for services rendered an employe of a Municipality.

A policeman was shot while making an arrest, by a desperado, with a 41 caliber bullet. The missile entered two inches to the left of the middle line and two inches above the umbilicus. The stomach, the duodenum and pyunum were perforated. Dr. A. C. Bernays performed laparotomy, stitched the holes in the intestines and saved his patient. For this successful piece of surgical work he was awarded $500 by the Municipal Assembly.

## SELECTIONS.

### THE RELATION OF BACTERIA TO DIARRHEAL DISEASES IN INFANCY.

BY L. EMMETT HOLT, M. D.

The study of intestinal bacteria is yet in its infancy. With our present limited knowledge it is manifestly unsafe to make sweeping generalizations or deductions. All that will be attempted here will be to consider the bearing of what now appears to be well established upon our notions of the pathology, preventions, and treatment of gastro-intestinal diseases in infancy.

In the study of the effects of micro-organisms upon the human body, under all circumstances, three factors must be kept constantly in mind:

1. The nature of the micro-organisms.
2. The dose, or numbers in which they enter the body.
3. The vulnerability of the patient.

It is nowhere more important to consider all the factors than in diarrheal diseases.

1. *The Normal Conditions Present in Infants on Milk Diet.*—For these we are indebted mainly to the work of Escherich. Those which are important in the present connection are:

1. That the small intestine is acid throughout the upper two thirds of its course.
2. The source of the acid is the decomposition of milk-sugar, which is present here, though not in large amount.
3. There is no decomposition of casein.
4. All the casein and the greater part of the milk-sugar appear to be absorbed soon after they enter the intestine.
5. Oxygen is absent, with the possible exception of a very small amount next the mucous membrane.
6. Thus far there have been isolated and studied but two varieties of bacteria which are constantly found in the intestines of nursing infants—the *Bacterium lactis aerogenes*, which is found in great abundance in the upper portion of the small intestine and diminishes in numbers as we descend, and the *Bacterium coli commune* (Brieger's bacillus), which exists in great numbers in the colon and in the stools. The *Bacterium lactis aerogenes* decomposes milk-sugar, with the production chiefly of lactic acid (Escherich) or acetic acid (Baginsky), and to one of these the acidity of the intestine here is due.

This bacterium also produces carbon dioxide and hydrogen in considerable amount, but has very little effect either upon albumin or fat.

The *Bacterium coli commune* acts but very slightly upon either casein, fat or sugar.

An explanation of the small number of varieties constantly present is to be looked for in certain conditions which prevail in the intestine which limit bacterial growth. These are the exclusive diet, the absence of oxygen, and the rapid absorption of both casein and milk-sugar. Bile does not act as an intestinal antiseptic, since Booker and others have found that almost all intestinal bacteria grow well in a ten-per-cent. solution of bile. Its influence in diminishing intestinal putrefaction, then, must be due to its action in digestion and absorption. When bile is absent these processes are imperfect, and decomposition takes place in the unabsorbed residuum.

The acidity of the stomach is no protection

to the intestines against the entrance of living bacteria. The acidity is not great except when the digestive process is at its height. Miller found that unless it reached 1.6 per cent. of hydrochloric acid it did not stop bacterial growth. Van Puteren examined the contents of the stomach in eight infants, and never found an acidity exceeding 0.8 per cent., and, finally, MacFadyen demonstrated that in dogs, by giving at the same time lage draughts of water, almost any variety of bacteria could be made to pass the stomach without being destroyed.

It has not yet been established that bacteria have any essential part to perform in the physiology either of gastric or intestinal digestion. Nor does the theory advanced by Baginsky—that the function of the bacteria constantly present under normal conditions is to prevent the development there of abnormal species—find any adequate support either from the observed facts or from analogy in other parts of the body.

II. *How may these Normal Conditions be altered?*—1. The varieties of bacteria which develop anywhere are dependent, among other conditions, on the food present. Escherich found that the species existing in the intestines when the diet was exclusively milk disappeared and gave place to different species when milk was excluded and a meat diet substituted. The conditions are also altered in infancy by anything which increases the amount of unabsorbed materials in the intestine.

Practically, we find that this may occur in three ways:

First. There is a failure of digestion, the character and quantity of food being normal. This failure may be a sudden one, as in the invasion of acute disease; it may be habitual, from constitutional debility; it may be the result of many nervous influences as depression from high atmospheric temperature.

Secondly. The quantity of food given is too large, so that, even though its character is proper, normal digestive powers can not take care of it.

Thirdly. Food so improper for infantile digestion is taken that it is not acted on at all, but very slightly.

In all these cases the result is essentially the same—viz., there are present in the intestines masses which, at the temperature of the body, readily undergo putrefaction. If the active cause is only a transient one, as soon as the decomposing substances have been eliminated, proper feeding and the re-establishment of healthy digestion soon restore normal conditions.

If the cause continues operative, other results follow which will be detailed hereafter.

The conditions considered thus far may be looked upon as furnishing a favorable soil for abnormal bacterial growth in the intestines, the regulating mechanism being in all cases a normal healthy digestion.

2. There may be introduced into the intestine, with the food generally, pathogenic germs. Their effect will depend upon their nature, the number which gain entrance, and the conditions they find there.

Regarding specific germs as a cause of diarrheal disease we know as yet nothing positively, if we except the observations of Lesage and Hayem upon the bacillus of green diarrhea, which lack confirmation so far, and which have not been generally accepted by bacteriologists.

The toxic dose of bacteria must vary with each individual. The number which can be taken into the intestine of a strong infant with healthy organs without any unfavorable result is undoubtedly pretty large. A much smaller number in a delicate infant of feeble constitution is sufficient to set up the most active decomposition with serious results.

This constitutional factor is an important one, and one which has not been usually sufficiently considered.

The most important condition, however, is that of the digestive organs. While healthy organs are able to withstand the action of bacteria unless their number is very great, imperfect digestion, with its consequences—a mild catarrh and the presence of undigested materials in the intestine—furnishes the conditions most favorable to decomposition. Now

the entrance of a comparatively small number of bacteria may become dangerous.

3. Poisonous ptomaines may be formed in the food outside the body, the introduction of which may produce toxic symptoms independent of any previously abnormal conditions being present, these requiring only absorption. These toxic symptoms may be the same as if the ptomaines had been produced by decomposition in the intestine.

III. *Results of Abnormal Bacterial Growth in the Intestines.*—The continued presence of undigested or indigestible food may produce effects mechanically, or more commonly by the decomposition from bacteria. Catarrhal inflammation of the mucous membrane is set up by the irritating products, acids and ptomaines, which the bacteria produce. This intestinal catarrh may be at first of a very low grade, but, as a consequence of it, mucus and serum are added to the intestinal contents, and probably oxygen also from the hyperemia, all these new conditions tending to increased activity of bacterial growth, which in turn aggravates these lesions. It cannot be positively affirmed, but it seems altogether probable, that such a catarrh interferes with the secretion of normal gastric and intestinal fluids.

Given, then, impaired digestive force and an intestinal condition such as has just been described, and it is not difficult to understand how pathogenic germs may develop with great rapidity which under normal conditions could not find a foothold.

That this is exactly what takes place seems to be borne out by clinical experience. It is a matter of every-day observation that the severe types of intestinal disease are almost invariably preceded by the symptoms of a mild disorder for some days.

Another injurious effect of the bacteria is that they set up decomposition in the food in the stomach and intestines, so that the patient suffers from innutrition. This effect is produced in another way: the increased peristalsis which accompanies the catarrh hurries the food along before absorption can take place, and in this way also adds to the bulk of the decomposing mass lower in the bowel.

The final results in every case are:

1. Innutrition of the patient.
2. Catarrhal, croupous, or follicular inflammation of the mucous membrane.
3. Toxic symptoms from the absorption of ptomaines.

With our present knowledge it is not possible to say certainly whether the development of abnormal bacteria is to be regarded as the primary cause of digestive derangements or the result of it. The facts, as we now understand them, seem to be most easily reconciled with the latter view.

In what, then, consists the peculiar susceptibility of children under two years? We may not attribute it to the milk diet, for this food is taken almost as freely during the third as during the second year without any such injurious results. We do not yet know of any anatomical or physiological differences in the intestinal tract in later childhood sufficient to explain the fact, and we must fall back to the view that there is then increased power of resistance to bacteria; that in children over two years the intestinal tract almost ceases to be a vulnerable point for bacterial attack.

The comparative immunity of children in the country, and of the better classes in the city, is to be explained in the same way.

Breast-fed children escape by reason of the fact that their digestive organs are usually healthy and their food is free from germs.

Hand-fed children suffer most—first, because they are almost always overfed; secondly, because many of them suffer a large part of the time from a mild type of catarrh; thirdly, because in summer their food contains germs in abundance. In the absence of the third condition the two others are not usually potent enough to produce serious consequences. But the union of all three gives us our worst cases.

To summarize:

1. We accept, then, the doctrine that we are concerned most of all, in the gastro-intestinal disorders of infancy, with the development of abnormal bacteria, but as the first step there is a failure of complete digestion and perfect absorption.

2. Mechanical diarrhea from the presence of foreign bodies, or food which acts as such to infantile digestion, and that resulting from the ingestion of poisonous ptomaines, are probably the only varieties to be excluded from this class.

3. The anatomical changes are those of inflammation of the gastro-intestinal mucous membrane; but the lesions are the results, either directly or indirectly, of the micro-organisms. Since micro-organisms are found in numbers only superficially, except where ulcers exist, it seems most likely that their action is an indirect one through their ptomaines.

4. As to the act nature of the processes of putrefaction which take place in the intestine, and the bacteria which produce the different forms, we are as yet almost in entire ignorance.

5. One clinical form of diarrheal disease—viz., true cholera infantum—has many features which point to a specific germ as a probable cause.

To what views of prophylaxis and treatment of intestinal disease does the foregoing discussion lead us? Time will not permit here more than an outline.

Two things are essential to active bacterial growth—the entrance of living germs in numbers, and a proper soil for their development. Prophylaxis must have regard to both these conditions.

Germs are to be excluded by sterilizing milk for all children under two years, by absolute cleanliness of bottles and everything with which the milk comes in contact, and by securing pure air. Tompkins found in Leicester, England, that in one section of the town where diarrheal diseases were very prevalent there were from three to six times as many bacteria in the air as in other sections. The water supply was the same for all, and the food not essentially different.

Equally important is cleanliness of the mouth. Van Puteren found in infants suffering from thrush that the number of bacteria in the stomach was forty times as great as when this condition was absent.

To secure a soil unfavorable for bacteria we must have healthy digestion and absorption. This means a great deal. To secure it we must, in the first place, build up the infant's constitution; secondly, food suited to the powers of the digestive organs should be given; thirdly, regularity in feeding must be insisted on, and night nursing and feeding stopped as early as possible; fourthly, the stools should be inspected to see whether what is given is properly absorbed; fifthly, all minor derangements should be attended to; sixthly, during the hot summer season the amount of food should be materially reduced, and infants should be allowed water freely.

As to treatment, three distinct indications present themselves:

1. To nourish the patient.
2. To combat the abnormal bacterial growth.
3. To treat the lesions.

All these indications must be considered if success is to be the result of our efforts. The force of the different indications may vary in different stages of the morbid process; thus, early in the disease the second indications may be the most important, while later on the third indication comes into great prominence.

In all stages we have to deal with a very complex process, and its management will never, I think, be reduced to so simple a thing as the discovery of a pathogenic microbe and the giving of its appropriate germicide—*N. Y. Med. Jour.*

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## CREASOTE IN THE TREATMENT OF PHTHISIS.

In a recent number of the *N. Y. Med. Jour.* and in the *Amer. Jour. of Med. Sci.* for Jan., 1889, are articles by Drs. Austin Flint and Beverley Robinson, in which the use of creasote in pulmonary affections is commended.

Dr. Flint's cases reported, were well marked cases of phthisis pulmonalis, and were treated by creasote inhalations from a perforated zinc inhaler (Hazard, Hazard & Co.) and by the same medicine given internally,

a dose of three or four drops t.i.d.The inhaling fluid (Beverley Robinson's formula) consisted of equal parts of spirits chloroform, alcohol and creasote; the inhalers were generally worn almost constantly except at night. Dr. Flint concludes that the records of the ten cases reported show that creasote by the stomach and in inhalations, in cases of solidification without cavities, effects prompt and decided improvement in all phthisical symptoms, with increase in appetite, weight and strength; in cases with small cavities there is much less improvement; and in cases with large cavities the treatment seems to have little more than a palliative influence.

Dr. Beverley Robinson's article gives the results of the use of creasote by mouth and inhalations in sixty-six cases. These results have convinced him that "we have in beechwood creasote a remedy of great value in the treatment of pulmonary phthisis, particularly during the first stages. Not only does it lessen or cure cough, diminish, favorably change, and occasionally stop sputa, relieve dyspnea in many instances; it also often increases appetite, promotes nutrition, and arrests night-sweats. It does not occasion hemoptysis, and rarely causes disturbance of the stomach or bowels except in cases in which it is given in too large doses."

Dr. Robinson does not venture any opinion as to whether creasote has any anti bacillary effects; he affirms, however, that it may be used to advantage in all stages of the disease, and in his experience it has proven itself superior to any other medicical treatment with which he is familiar. He has been in the habit of ordering in phthisis dessert-spoonful doses of the mistura creasoti of the United States Pharmacopea. He combines the internal use of creasote with the antiseptic inhalations above mentioned. The formula is, however, ever varied; a combination of chloroform, iodoform and oil of eucalyptus with the creasote often being used. As a rule, in the beginning, the inhaler is worn during fifteen or twenty minutes every three hours, and from ten to twenty drops of the inhaling fluid are poured on the sponge of the inhaler at least three times in twenty-four hours. Dr. Robinson speaks well of the internal administration of creasote along with cod liver oil, one minim to the drachm of the oil. Another favorite way of giving creasote is in combination with whiskey and glycerine according to the following formula:

℞ Creasoti (beechwood) - min. vi.
Glycerine (Price's or Bower's) - ℥i.
Whiskey - - - - ℥ii.

M.—Dose. A teaspoonful every two or three hours.

Dr. Robinson insists on the necessity of the purity of the creasote, and has especial confidence in the product of T. Morson & Son, an English firm.

From the last *Annuaire de Therapeutique* we learn that for the past nine years Dr. Sommerbrodt, of Berlin,has administered creasote to nearly five thousand phthisical patients.

In almost all the patients, this medicament has caused amelioration of the symptoms, those only failing to be benefited in whom the pathological process was far advanced, and had invaded a great number of organs.

"In cases relatively recent (initial hemoptyses, catarrh of the apices, limited infiltrations) creasote gives surprising results; conservation of the forces, diminution of the cough, of the expectoration, increase of appetite, lessening of the night sweats and fever; lastly, in many cases disappearance of the physical signs, notably of the percussion dulness, especially in young subjects."

Sommerbrodt gives the creasote in gelatine capsules each containing a grain of creasote and four grains of syrup of tolu. Three of these capsules are taken after each meal. The dose is gradually increased as the stomach will bear. Sommerbrodt finds that "the greater the quantity of creasote which the patient can tolerate, the more efficacious is its action." In some instances he has given as much as forty forty-five centigrammes daily (seven to nine grains) for months.

We learn from the *Berlin Klin. Woch.* that Kartzer has published observations of sixty-one cases of phthisis treated by creasote, giv-

ing also the results obtained by the same treatment in a hundred other cases. In ten per cent he has noted what he considers complete recovery, the physical signs disappearing, and bacilli being no longer present in the sputa. In forty per cent he has obtained amelioration, so that the patients have been able to resume their occupations. His favorite formula is as follows:

Beechwood creasote, two grammes; pure alcohol thirty grammes;tincture of gentian, extract of coffee, of each ten grammes; distilled water, one hundred grammes. Shake, and take a dessert spoonful three times a day in half a cup of milk.

This mixture, according to Kartzer, is almost invariably well tolerated.—*Bost. Med. and. Surg. Jour.*

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Suspension of Animation among the Fakirs of India.—This short feuilleton is interesting in that it describes the preparations which the fakirs make before "hibernating." They begin by practicing suspension of respiration, and are able to do this from five to twenty minutes, and longer. They then wash out the intestinal tract completely from one end to the other. The sublingual muscle is cut so that the tongue may be rolled back so as to completely cover the larynx. These are all the preparations made by the fakir. Dr. Honigberger witnessed the burial of the fakir, Harides, and thus describes it. On the appointed day, in the presence of the rajah and a large number of witnesses, the fakir seats himself on a linen sheet; he fixes his eyes on the extremity of his nose, and in a few moments is in a state of cataleptic hypnotism; the eyes are closed and the extremities become rigid. The assistants of the fakir close the ears and nostrils with lint and wax. The body is wrapped in the sheet, which is knotted and sealed with the seal of the rajah, and placed in a wooden box similarly sealed. The box was placed in a grave-like pit, which it completely filled, and the lid was fastened and sealed, the grave filled up, and the place was watched night and day.

At the end of six weeks the fakir was exhumed and the rajah found the seals intact. The shroud was covered with moisture just as is any linen exposed to humidity. Dr. Honigberger examined the body of the fakir. The arms and legs were wrinkled and rigid. The radial and temporal pulse could not be felt, nor could any heart sounds be detected. The whole body was cold. During all this time the assistants bathed the body with warm water and rubbed the extremities. Upon the head they placed a layer of warm wheat paste, and renewed it several times. The wax tampons were then taken from the nose and ears, and finally one of the assistants opened the fakir's mouth with a knife, pulled the tongue into place, and insufflated air into the lungs. The eyelids were raised after having been rubbed with warm grease. The eye was glassy in appearance. At the third application of the warm paste to the head, the fakir trembled, the nostrils dilated, the pulse beat feebly, the limbs grew warmer, and the eyes regained their luster. The fakir, returned to life, said to the rajah, "Do you believe me now?" At the end of an hour the fakir, still very feeble, was seated at the royal table.

On another occasion Harides was buried for four months, and resuscitated with the same success. Similar cases have been reported from time to time, and it is impossible to doubt their genuineness. If we cannot explain these cases, we can find a host of analogous facts in the lower animal life, as, for instance, the hibernation of dormice and other animals, the revivification of fish and frogs after a winter passed in ice, the vital resistance of toads and other living beings inclosed without nourishment for many years in small, hollow places, etc.—I. N. Bloom, A. B., M. D., in *Amer. Prac. and News.*

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A New Operative Treatment in Empyema.—The treatment of empyema offers great difficulties when the lung is completely collapsed as the result of long compression by a purulent effusion. In such cases since 1879, Estlander and others have advocated the resection of large portions of the ribs with opening of the thoracic cavity. Schede, modi-

fying this operation, removes not only the rib, but also its periosteum and subjacent pleura—that is to say, he takes away the inner chest-wall, with the exception of the skin. Sprengel has introduced still another modification by making a subperiosteal resection of two ribs throughout almost their entire length, and then opening the pleura, and washing out the pleural cavity. This procedure, according to its introducer, has given excellent results where other means have proven unsuccessful. Prof. Saubbotine thinks that the methods of Estlander and Schede are accompanied by great dangers from the fact that they leave a large denuded surface constantly bathed in pus, and may readily so lead to blood-poisoning. He thus has endeavered to preserve the surface of the wound from this contact. He starts with the idea that, to cure an empyema with complete collapse of the lung, it is unnecessary to remove the ribs, but that it is quite sufficient to perform on them a subperiosteal section. A rib being incised in two points, it is only necessary to exert pressure on the middle segment to reverse entirely the normal convexity of the rib, thus diminishing the cavity of the pleural sac. The following is his operative measure: The patient being anesthetized, the skin is divided horizontally along the seventh rib, which is freed from its periosteum for a space two to four inches in length. The pleura is then opened and the purulent contents evacuated and washed out with some antiseptic liquid. After that the wound is closed and sealed. An incision is then made along the border of the great pectoral muscle, and through this incision the fourth, fifth, and sixth are divided, and a small place resected so as to make them pliable. A similar incision is then made in the subaxillary line and the same ribs are again divided. The two vertical incisions are then closed by sutures and then covered with antiseptic dressing. If the antiseptic precautions have been carefully observed, the wounds made in resecting the ribs heal by first intention.

The advantages of this operation over that of Estlander are the following:

First, the costal wounds, if the necessary precautions have been taken, do not come in contact with the pus, and heal like simple fractures or subcutaneous osteotomies.

Second, the divided ribs becoming flexed greatly reduce the volume of the plenral cavity, and, consolidating later in this position, they furnish a sufficient support to the vertebral column, thus diminishing the tendency to deformity of the latter.—*Therapeutic Gazette.*

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Abortive Tteatment of Acute Pleurisy with Diuretics and Dry Diet.—The following is taken from one of Dr Costa's clinical lectures published in the *Med. Times*:

This man, æt. 41 years, was admitted only two days ago (Jan. 3). He stated that he had had a chill on the day before, followed by fever and pain of a very severe character at the lower part of the right chest, making it impossible for him to take a long breath, and checking his cough. He had a temperature of 102° on admission, and was very restless on account of the pain in his side, which was excruciating and increased by the slightest movement of his body. We found slight impairment of resonance over the lower half of the right lung, anteriorly, with feeble breathing—probably because he voluntarily checked respiration on account of the pain—and we also detected pleural friction at the ends of inspiration. I bring this case before you solely to show you the results of treatment. It is now the third day of the disease, and his temperature is normal. He can breathe without pain and he slept all last night without an anodyne. Upon percussing his chest this morning, I still find relative dulness at the right base, and some friction-sounds are still audible; but I can hear the vesicular murmur beneath and there is no effusion. When he was admitted his right chest was thoroughly cupped, and a few ounces of blood were taken with two wet cups. He was given two grains of Dover's powder every two hours, with at first a mercurial, and then forty grains of acetate of potassium every two hours, or at the rate of an ounce a day. The object of this treatment was to act free-

ly upon the kidneys and prevent effusion, and this was favored by restricting the amount of liquids given him. The chest was enveloped in cotton. The result has been all that could have been desired. The patient is convalescent. If needed, he can have five grains of Dover's powder at night, although he slept well last night without anything.

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THE DYSPEPSIA OF PHTHISIS.—Few text-books and writers on the practice of medicine pay much attention to the dyspepsia accompanying pulmonary consumption; yet it is so prominent in many cases as to almost mask the fatal disease. Perhaps there is a comfort in the fact that the consumptive thinks he has the dyspepsia, and is not conscious of his real trouble. In fact, in this hopeful disease (for consumptives are notably hopeful), the stomach symptoms are the only ones complained of in many cases; and, indeed, if we can carefully regulate the diet and help on the disordered digestion, we do much more good than in attempting to give tonics and cough medicines, which are often attended with no possible effect.

It is not easy to lay down general rules for all such cases, but the best way, in severe cases, is to stop all solid food, and try a milk diet. Give uniform small quantities, frequently repeated, and let the patient feel a little hungry to stimulate the sluggish secretions of the gastric juice. A small quantity of whisky,or, if this is objected to, one of the bitter tonics, may be given about three or four times a day, from fifteen to thirty minutes before eating. In case of pain during digestion the milk may be peptonized, but this is not always advisable, as the unpleasant taste is apt to cause an aversion to milk, and thus interfere with the important food. A good domestic remedy, which has often proved very effective, is a preparation of sherry and rennet before each meal. Small doses of bismuth and calomel after each meals relieves the distress and keep the bowels regular. As the digestion becomes stronger the *menu* may be enlarged and the drugs cut off, until the patient is able to take a ferruginous tonic. This treatment (like all methods of treatment—not new) in pulmonary consumption, when dyspepsia is a prominent symptom, has met with sufficient success in some cases to deserve recommendation, and has been the means of prolonging life.—*Md. Med. Jour.*

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THE DIURETIC ACTION OF SALICYLIC ACID.—Huber in the *Gazette Hebdomadaire de Medecine* claims to have had clinical demonstration of the diuretic properties of salicylic acid. He has closely observed twenty-five cases of rheumatism and noted the quantitative augmentation of the urinary secretion after the administration of the acid. He found the quantity of urine to increase in the twenty-four hours trom five hundred to seven hundred grammes. Similar results were noticed in cases of pleurisy.

The diuretic dose of salicylic acid was about ten grains every three hours till the quantity of forty-five grains per day was administered. The diuresis augments from the first day, and continues on the following days. Huber would not advise the employment of this remedy in typhoid fever and still less in the course of nephritis; in fact, he would restrict its use to cases of simple pleuritic effusion.—*Brit. Med. and Surg. Jour.*

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NEPHRITIS AS A SEQUEL OF WHOOPING-COUGH.—Dr. Stefano Mircoli, of Monterubbiano, has lately called attention to the occurrence of nephritis as a sequela of whooping-cough. In 1887, among ten children who suffered from the disease, the attack was followed in two by nephritis, which proved fatal in one of them. The necropsy left no doubt as to the existence of nephritis. In 1808, among thirty-five cases of whooping-cough, Dr. Mircoli met with nephritis in four; two of these died, and in one of them a post-mortem examination was made. The kidneys were seen with the microscope to show severe parenchymatous nephritis. No cultivation experiments could be made to determine whether the disease was parasitic or not. The microscope showed no trace of micro organisms.—*Brit. Med. Jour.*

# THE WEEKLY MEDICAL REVIEW.

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## REPORT ON PROGRESS.

### DISEASES OF THE NERVOUS SYSTEM.

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III. NERVOUS SEQUELÆ OF DIPHTHERIA.—*N. O. Med. and Surg. Journ.*

IV. PERSONAL INVESTIGATION AS TO THE EFFECTS OF THE USE OF TOBACCO.

### A NEW ANTIDOTE FOR MORPHINE.

In the *Internationale Klinische Rundschau* for January 27, 1889, Professor Arpad Bokai recommends picrotoxine as an antidote for morphine, on the ground that it exerts an antagonistic action to morphine on the respiratory centers; for, while morphine tends to paralyze these centers, picrotoxine exerts a powerful stimulating effect. Since, therefore, death in morphine poisoning is usually attributable to paralysis of the respiratory center, on this ground alone picrotoxine should be indicated as a valuable antidote. Further, morphine may produce such rapid reduction in blood-pressure as to endanger life; while picrotoxine, on the other hand, is a powerful stimulant to the vaso-motor center, and is in this respect also an antagonistic to morphine. Professor Bokai adds that the action of morphine on the cerebrum is directly exposed to that exerted by picrotoxine. Finally, Professor Bokai suggests that the previous administratioı of a small dose of picrotoxine might reduce the danger of asphyxia in chloroform narcosis.

### NEURITIS TREATED BY SECTION.

J. T. Stewart, M. D., Monrovia, Cal., cites the following case:

Miss K. F., æt. 14, became blind two weeks after birth. Her health had been good, except an occasional attack of "sore throat." There is satisfactory evidence that her father had syphilis. With this exception the family history is good.

About the first of December, 1887, on her return from an evening's entertainment, she was attacked with pain in the great toe of the right foot. The pain became very severe and soon an ulcer made its appearance on the toe. It was thought to be chilblains. She was then near San Francisco and consulted physicians of that city. At the time those gentlemen had her under observation it seems to have assumed appearances of periostitis, involving the bones of the foot and leg. In a correspondence with them I received a letter stating that it was a case of osteo-myelitis. Reference to these facts is made for the purpose of emphasizing that diagnosis may sometimes be difficult in the extreme. Pain becoming most agonizing and extending as high as the knee, she was removed to her home in this county, at which place I saw her March 1, 1888.

At this time her general condition was very bad. She was emaciated and very anemic. There was no elevation of temperature; no evidence at that time of disease of the bone or its envelope. The limb was not unnaturally warm, red nor swollen. The circumference of the diseased member was rather less than that of its fellow. There was exquisite tenderness over the parts supplied by the sciatic below the knee. She could not eat nor sleep.

Her agony night and day, especially at night, was indescribable.

Medical gentlemen of Los Angeles studied the case with me, and to them I am very much indebted for assistance in diagnosis and treatment.

Regarding it as a case of neuritis ascendens, and probably of syphilitic origin, we put her on the usual treatment, iodide of potash and mercury. Supplementary to this we gave cod liver oil and other constructives; kept the limb warm and absolutely at rest; applied blisters and numerous anodyne preparations; administered morphia sulph. and atropia hypodermically. It soon became necessary to increase the morphia until she took a quarter of a grain every hour or two to secure freedom from pain or to induce sleep. After persevering in our treatment for four months without the slightest improvement (on the contrary the conditions grew manifestly more unpromising), profound disorders of the nervous and digestive system menaced her life. This unhappy result determined me upon operative interference. Assisted by Drs. Bicknell and Rankin I made a neurotomy of the sciatic in the upper third of the thigh, removing about three-quarters of an inch of the nerve.

The section was followed by immediate relief from pain. Morphia was immediately discontinued. There was prompt and uninterrupted improvement in her general health. During the months of August and September she had pain in the region of her bladder; this pain subsided and she seemed to be well, nt about the middle of October the little finger of the left hand became painful. The pain ascended along the course of the ulnar nerve to a point near the middle of the forearm.

Assisted by Drs. Dryer and Rankin I divided the ulnar, with the effect of immediate relief. The muscles below the knee, supplied by the sciatic, are paralyzed and correspondingly atrophied. I am now considering the feasibility of suturing, if possible, the ends of the divided sciatic; failing to bring the ends together, I should resort to transplantation. I apprehend, however, that such inflammatory changes have occurred in the nerve as to render restoration of function improbable. Its tendency to attack remote regions is also discouraging. This case in some features seems unique. The literature at my command, at least, is quite barren of such history. I cannot find recorded experience in nerve suturing under similar circumstances. It has been practiced successfully and function restored many months after division, but in no case was the repair attempted after the existence of chronic neuritis.

Were it not that the operation is simple and unattended by special danger it could not be contemplated for a moment.

[The above case is certainly one of unusual interest and deserves, as well as every one of the kind, that has been equally well studied, to be reported. We are satisfied that Dr. Stewart was fully warranted in the operative measures he instituted. The only pity is that section was not done sooner, when it might have been less extensive. We feel that Dr. S. is to be congratulated on the faith in his diagnosis that led him to proceed as he did. We have quoted his report of the case because we think it contains a practical lesson on the diagnosis and treatment of one of the many phases of neuritis, with which we cannot become too rapidly or too well acquainted.]

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## Nervous Sequelæ of Diphtheria.

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R. Brower, M. D., Chicago, Ill., says the morbid phenomena left by diphtheria in the nervous system are paralysis of motion and sensation, chorea, epilepsy and insanity. These sequelæ occur more frequently in this disease than in all the other acute diseases combined, and they are always in the way of a favorable prognosis for at least six weeks, no matter how mild the primary disease may have been.

Paralysis occurs in about forty per cent. of all the cases treated. It may commence as early as the second day of diphtheria, but usually does not appear until the second

or third week after the termination of the throat symptoms. This paralysis bears no direct relation, as to time of development or intensity, to the severity of the primary disease or the previous health of the individual; a very mild case may be followed by the severest paralysis. It is much more frequent in adults; indeed the older the patient the greater the danger, although it may occur at any time from two years upward.

The paralysis usually begins in the velum palati, the place of the primary morbid activities being the place of the beginning of the nervous sequelæ. This produces a nasal tone in the voice and a partial regurgitation of liquids through the nose during deglutition, and along with this motor impairment there is ordinarily anesthesia.

Paralysis of the pharynx is not so frequent as the paralysis of palate, but more dangerous, and it may be so severe as to make swallowing impossible. The superior laryngeal nerve may be paralyzed, producing anesthesia of the mucus membrane of the larynx, and destroying in part the functions of the epiglottis, so that food is very liable to enter the larynx and trachea. If the particles are small they may reach bronchi, causing pneumonia; if large, they may occlude the trachea and produce sudden death. The paralysis may also involve the vocal cords, making phonation impossible, and so far interfering with respiration as to make intubation or tracheotomy necessary.

Paralysis of the accommodation of the eye; due to paralysis of the ciliary muscle, may occur, and will be overcome by the use of convex glasses. The motor oculi nerve may also be paralyzed, producing diplopia, strabismus and ptosis.

Paralysis of the lower limbs may succeed that of the soft palate. The patient will first complain of numbness, formication, tingling and pain, and then, very soon, muscular weakness will be manifested. The loss of power is rarely complete, the condition being more a paresis than a paralysis, and with it there is usually ataxia. The case may at this time be easily mistaken for locomotor ataxia, especially when, as is usual, you find absence of patella-tendon reflex. This ataxia will continue often for weeks after all paresis has disappeared. If the paralysis continues to advance the upper extremities may next be involved, and here, as in the lower extremities, disorders of sensation usually precede those of motion, and ataxia is usually present here also..

The muscles of the trunk and neck and the sphincters of rectum and bladder may later along be paralyzed, although very rarely.

The diaphragm and heart are sometimes involved. The former, while grave, is not so serious as the latter. Heart failure is a cause of death in many of the malignant cases in the primary disease, but sudden death not infrequently occurs from this cause after convalescence has been well established. This fatal accident is sometimes preceded by precordial distress, dyspnea, slowness and irregularity of pulse and badly accentuated heart sounds. The earliest, most frequent and most persistent phenomenon of perverted nervous action is the loss of patella-tendon reflex. This may occur very early in the primary disease, but usually does not occur until the second week, and may continue several weeks after otherwise complete recovery.

The pathological anatomy of post-diphtheritic paralysis is yet uncertain. In some cases the lesion is without doubt a peripheral parenchymatous neuritis. In other cases the paralysis depends upon a polio-myelitis anterior, and more rarely cerebral hemorrhage or meningitis are found as the pathological basis of the symptoms. These several lesions cannot be present in the majority of cases, for the paralysis often is too transitory in its duration and too variable in its location to be due to any fixed structural changes in the tissue of the nervous system. The microorganisms that constitute the materies morbi of the primary diseases are the causes of these phenomena, either directly by their presence in the nerve elements of the central or peripheral systems, or in the blood vessels that supply them; or else they produce some poisonous products, the more or less sudden

development of which destroys or disturbs the functions of the nervous system.

The prognosis of the paralysis is favorable, except it involve the muscles of deglutition, respiration or the heart. The sooner the paralysis occurs the more unfavorable the prognosis. The duration of the sequelæ is very variable.

The treatment of post-diphtheritic paralysis must be tonic and mildly alterative; an abundance of easily digested nourishment, a moderate amount of alcoholic stimulants; and, where there is paralysis of the pharynx, epiglottis or upper part of the larynx, the early use of an esophageal tube is demanded, as well as feeding by the rectum. Strychnia should be used with some caution in the beginning of the paralysis, lest it produce an undue determination of blood to the spinal cord and increase the pathological conditions. Iron and quinine will usually be of some service from the beginning. Mild alteratives, the iodides and mercury are indicated in the majority of cases, along with the tonics, to stimulate the absorbents and thereby hasten the removal of morbid products from the nervous system. Electricity, in the form of the mildest current that will produce muscular contraction, is of service. In some cases the faradic current is sufficient, but more frequently the interrupted galvanic current is necessary for this purpose. Massage will be of service if the paralyzed muscles are accessible to the manipulations.

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## Personal Investigation as to the Effects of the Use of Tobacco.

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Geo. Franklin Shiels, M.D., F.R.C.S.E, C.M., L.R.C.P., in the *Pacific Medical Journal*, says: In my investigation I have employed two methods, one of which was to question all the users of tobacco I could meet as to their experience of its effects, the other consisting in sending out a printed list of questions to medical men requesting them to favor me with their opinions on the subject.

I shall first give the results of my investigation among the users of tobacco. In this I am fortunate in possessing a large circle of acquaintances in Scotland, England and America, who have willingly given me their opinions, and in having for some months traveled in the smoking car of an American railway train a distance of thirty miles twice a day, where I might question even a stranger without fear of being denied an answer. I have not, however, confined myself to these sources of information, but have visited several manufactories of tobacco, and have sought information when and where I could. Since I began, I have questioned some five hundred people of all ages and occupations, and I now purpose giving the general outcome of their answers, and the conclusions which they have led me to arrive at.

The first question which I asked was concerning the experience of the first indulgence. With twenty exceptions, the answer has been a fairly good description of the acute toxic symptoms of tobacco poisoning, the degree of severity varying from slight nausea to vomiting, giddiness, faintness, and even involuntary evacuation of the bowels and extreme collapse. The greater number first used tobacco before the age of fifteen, many having done so before the age of ten. In some these symptoms were experienced but once, in others they occurred several times before tolerance was established. The twenty exceptions which I have mentioned were cases where they had reached the age of from eighteen to twenty-four years before they first used tobacco, and in which none of the above symptoms were manifested even from the first, showing, as I have before mentioned, that there are men in whom there seems to be a natural tolerance for the substance. As a striking contrast, I have met non-smokers who have informed me that, though they have attempted the use of tobacco again and again, they could never become accustomed to its use, each trial being accompanied by the most disagreeable symptoms. As an illustration of this I will give the case of a hotel porter, æt. 40, perfectly healthy (life insured), who, whenever he attempts to smoke a cigar or pipe, suffers from lightness in the

head, and uncertainty of gait very similar to that of alcoholic intoxication. This and many other cases show that though there are those who naturally tolerate tobacco, there are others to whom it is in any form or quantity a poison.

The next question was asked with a view of ascertaining how far, after tolerance had been established, tobacco could be used without a recurrence of acute toxic symptoms. I find that the great majority of smokers and chewers experience one or other of these symptoms, should they smoke or chew before breakfast; also, that exceeding a limit which they fix for themselves, or inhaling the smoke when not accustomed to the practice, are both capable of bringing about a similar result. The amount which some are capable of using without any such effect is almost incredible. I have met men who chew tobacco literally from morning to night, and others who, from their business (that of buying tobacco for the manufacture of cigars), smoke continually all day long, and in neither case was there any acute toxic effect.

I next directed my inquiry to discover as far as possible the proportion of tobacco users who suffer from the effects of what may be called chronic nicotine poisoning. I think, from what we have already seen, that I am justified in holding that these are only caused by the excessive use of tobacco. This being the case, my first object was to find out what might be considered excess. The further I have pushed my inquiry, the more convinced have I become that there is no general rule which can be made regarding excess and moderation, both from the fact that tobacco varies so greatly in its strength and quality, and that its action differs so much in different individuals. It is not the amount used, but the effect of using it, which must guide us in estimating excess, if we exclude from our consideration those of tender years, and those to whom tobacco is always a poison, and confine ourselves to what may be called practical tobacco users. I need only to give two instances to show that this is the case. The two men in question are both perfectly healthy and free from nicotine poisoning. One, æt. 55 years, has smoked at least ten cigars a day for thirty-five years. The other, æt., 35 years, has smoked one cigar after dinner for fifteen years. Here we have examples of the vast difference which may exist in the moderate use of tobacco. Probably were the smoker of ten cigars a day to add five to their number he would suffer from some of the chronic toxic symptoms, and I know that in the case of the smoker of one, every increase in the number for two or three days is productive of such symptoms.

Out of the five hundred people examined there were not more than fifty who showed any symptoms of chronic nicotine poisoning, or, in other words, who used tobacco to excess, though the amount used varied from one extreme to the other. I have, however, noticed that, among the more copious smokers whom I have met, there was a tendency to irritation of the pharynx, which was more marked in those who inhaled or used cigarettes.

Of the fifty who showed signs of having passed the limit of moderation, there were not more than half in whom the symptoms were sufficiently marked to cause them inconvenience, the others suffering from occasional transitory attacks of sleeplessness, palpitation or digestive disturbance, which they averred were quite over-balanced by the benefit and comfort which they derived from the use of tobacco, only occuring when they smoked too much, and ceasing when they lessened the quantity used.

Before giving the opinions of the many smokers I have questioned as to why they smoked, I will go over some of the symptoms from which the twenty-five or thirty who smoked or chewed to excess suffered. To accomplish this I cannot do better than to take one or two cases as examples.

F. G. M., æt. 27. Came under my care three years ago. On examining him I found that he was a heavy smoker of the pipe, cigar and cigarette and that he had both smoked and chewed since his tenth year. His heart was distinctly hypertrophied, he suffered from attacks of palpitation, pain over the heart, and

breathlessness on slight exertion. His pulse was frequently intermittent. On rising suddenly from his chair or on rapidly going up stairs he became dizzy and felt as if he should fall. When he smoked late at night he got up in the morning with a foul tongue and no appetite for breakfast. He lacked capacity for any sustained effort. I could find no reason for these symptoms except tobacco excess, and told him he must stop using tobacco altogether, or at least for a time. In a month from the time that he ceased smoking, nearly all these symptoms had disappeared, and when I saw him a few months ago his heart had regained its normal tone. He feels convinced that tobacco was the sole cause of his ailment, and has given up the use altogether.

F. G., æt. 25. General health good. Has been a heavy smoker for at least ten years. Began to smoke when ten years of age. Heart irregular in action, and easily set to palpitating; pulse frequently intermittent. Occasional attacks of pain in precordium. Becomes breathless on slight exertion. Pharynx congested. Heaviness after eating. Memory more or less impaired in last two years. Hand very tremulous. Knee jerk greatly exaggerated. Bad dreams and starting up at night with sense of impending death. Subject to attacks of low spirits. This patient has by advice stopped smoking from time to time for two or three months, when all the above symptoms disappear, when he again begins to smoke and as a result the symptoms again reappear.

R. B., æt. 28. General health good. Life insured. Suffers from palpitation, shaky hands, bad dreams, poor appetite and short, sharp, irritable cough, all of which symptoms disappear on giving up smoking. He prefers, however, to suffer from them, rather than give up the use of tobacco.

R. D., æt. 27. General health good. Heart irregular in action, pulse intermittent, frequent pain in precordium. Physical examination shows the heart to be hypertrophied. These symptoms pass off on giving up tobacco for a week or two, but he prefers to continue its use.

A. T. R., æt. 27. Asthmatic. Heart irregular in action, pulse intermittent. Frequent attacks of sharp pain in precordium. Tremulous hands. These symptoms disappear when he gives up tobacco, but as his asthma is made worse, he continues to smoke heavily (nearly ¾ oz. per diem).

John D., æt. 27. Organically healthy. Nervous temperament. Suffered from irregularity of heart's action, pain in precordium, atonic dyspepsia, sleeplessness, low spirits, tremulousness of hands and lack of capacity for sustained effort, all of which symptoms he knew to be due to tobacco excess, but he would not give it up. He acquired syphilis, and as the eruption made its appearance in his mouth and throat, he was forced to stop smoking. All his tobacco symptoms ceased, and he feels so much better that he avers he will not again begin its use.

H., æt. 36. A tobacco buyer. He has to smoke cigars in his business in order to choose the better kinds. He has consumed from ten to twenty cigars per diem, for three months out of the twelve, for the last fifteen years. This man manifests nearly every known symptom of tobacco excess, the functions of his heart, stomach, brain and spinal cord all being interfered with. He is the only individual whom I have met who could be said to suffer from amblyopia. His sight is bad in bright light, the disc is hazy and the pupils are sluggish, but he, unfortunately for the theory of tobacco amblyopia, uses alcohol pretty freely.

M., æt. 18. Originally healthy. His heart is irregular in its action to a marked degree. Pulse intermittent. Easily made breathless. Hands tremulous. He suffers from an irritable cough. This lad has smoked cigarettes for ten years, and inhales each puff. His face is pasty and pale, and he is very thin for his height.

I have in my note book the records of some seventeen other cases of people who suffer, or have suffered, from the results of tobacco excess, but to give them would avail us nothing, as it would only be a repetition of the cases to which I have already drawn attention.

These few examples, in which I have eliminated every other possible cause for the symptoms shown, demonstrate to my mind that there can be no doubt of the existence of harmful results following the excessive use of tobacco, and that these results are evidenced not by organic, but by functional disease, which passes off when the habit is discontinued. I am of the opinion, however, that the long continued disturbance of the cardiac functions may and does lead to hypertrophy, which may in its turn result in some more serious organic trouble.

The one case of questionable tobacco amblyopia which I have observed, joined to the expressed opinion of the surgeons of the New York Ophthalmic Hospital, all of whom I have interviewed, and the want of definitude shown in the text books and discussions on this subject, lead me to the opinion that the influence of tobacco in the production of amblyopia is still subject to doubt. Still, I think that since recovery of the sight in some cases follows the discontinuance of tobacco, there is some reason for regarding it as a cause of the blindness.

Regarding the use of tobacco, and more especially of cigarette smoking and inhalation, among the youth, the one case I have given, and the pale, pasty, dwarfed appearance of hundreds of boys one sees in the streets of New York with pipe, cigar or cigarette in mouth, are enough in themselves to show that it is radically harmful to them. Were more proof wanting of this, the books we have read and the reports of the cause of rejection of youthful candidates for the navy and training schools of the United States would supply it. Ten out of twenty candidates for cadetship at West Point were recently rejected on account of tobacco heart brought on by cigarette smoking. It would be difficult for any one who has not visited America to understand this. What I refer to is not the secret smoking which one sees among the boys in England and Scotland, but the open, habitual and allowed use of tobacco in America, which cannot fail to draw the attention of even the casual observer.

I have made no mention of the quantity of tobacco used in any of the cases I have given, and I have done this purposely, for my experience has taught me that it has, within certain limits, very little influence, all depending upon the individual, the old saying, "What is one man's food is another man's poison," holding very true for tobacco.

The fifty of the five hundred whom I found to suffer in one way or other from tobacco excess would give a percentage of ten. This I believe would be fallacious, were it applied to all who use tobacco. There are a very large number of moderate smokers who only smoke at certain times in the day and who never enter smoking cars or smoke in public. Such men as these are numerous, and, from the regular and sparing manner in which they use tobacco, may be classed as moderate smokers. I believe that, taking all users of tobacco, the number who are immoderate or excessive smokers, or, in other words, who show symptoms of chronic nicotine poisoning, cannot be over five per cent, possibly very much less, and were I asked to give an estimate, I would not feel justified in placing it over two per cent.

Of the 450 who used tobacco and did not, as I could learn, suffer from any of the symptoms of chronic nicotine poisoning I asked the questions, Why do you smoke? What good does it do you? The answers would fill volumes. Some said they smoked because they had fallen into the habit. Others, that they could do mental work better while using tobacco. Others, that it soothed and rested their brain after a hard day's mental work. Others, that it aided their digestion and helped to regulate their bowels. Others told me that they and their comrades, during the late civil war, would almost have rather had tobacco than food, as it kept them up, and that not infrequently they did actually trade the one for the other. Others, that they could not sleep without a smoke before going to bed. And so on; some of them attributing to tobacco effects which it could not possibly produce. Still, taking their answers as a whole, they go to support the conclusions which we have drawn from our reading.

Wishing to discover if the individual whom I was questioning was healthy, I always inquired: Is your life insured? I cannot be sure as to the exact number, but certainly one hundred of the men questioned answered in the affirmative. This led me to make inquiries which resulted in my learning that by none of the insurance companies is the use of tobacco or even the existence of "tobacco heart" held sufficient to vitiate the value of any given life. When companies whose business it is to weigh the length and value of human life without feeling, and merely with the object of discovering, as far as possible, how long a man will live and what risk they run in insuring him, do not discriminate against tobacco, we have very strong reason for believing that it cannot be such a dangerous poison as many would have us believe. The age of many I have met, ranging from fifty up to eighty years, showed me that tobacco could have very little to do with the length of life. One man, a lawyer, æt. 50 years, told me that his father, grandfather and three uncles, who were all smokers or chewers, lived until they were 80 years of age. Moreover it is a strange fact that the greater number of very old people whom we meet, especially among the poorer classes, are fond of the pipe. From conversation with tobacco merchants I find that they notice no bad effect on the workers. Those who work among the moist bales during conditioning are at first apt to feel a sensation of nausea which soon passes off. One manufacturer, who had been in the bussiness for forty years, very aptly said that the ailments of those working among tobacco are the same as those of others who work at trades where they are confined to close rooms and do not get enough of fresh air and physical exercise. Personally the workers seemed to me to look as healthy as other artisans.

Such are the results of observation lasting over three years and of a series of questions systematically put to every user of tobacco I could meet during three or four months. Though not of much value as results they do go to show that an investigation of this kind is fraught with difficulties which are practically impossible to overcome, since in many cases we have to snppose our subject healthy from his own statements and not from a careful examination of his physical state. Moreover the habitual smoker or chewer when questioned regarding his health is apt to think that one has it in view to detract from the virtues of tobacco, and, as a result, he will attribute to its effects which it does not produce, thus leading one into error.

Be this as it may, I feel that the opinions I have are in the main justified by the grounds on which I have based them.

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## ORIGINAL ARTICLES.

### A CASE OF MITRAL STENOSIS COMPLICATED BY PREGNANCY, PRESENTING AN ASTHMA OF PROBABLE UTERO-REFLEX ORIGIN.

BY LEWIS T. STEVENS, A. B , M. D.,

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Lena R., æt. 26 years, came to the chest clinic of the St. Louis Post-Graduate School of Medicine, December 3, 1888, and gave the following interesting history: She had had no sickness of importance until she was sixteen years old, when she was seized with a severe attack of inflammatory rheumatism, followed by chorea; at the end of two months she was again apparently perfectly well. Four years later, being still in good health, she married, and in the course of two years became pregnant. In the second month of pregnancy chorea again set in, and in the latter months became so violent as to render her helpless; but it suddenly ceased after confinement at full term. The child was puny and died in convulsions six weeks later.

In about a year she again became pregnant, and at the third month was taken with dyspnea on exertion, palpitation, cough and spitting of blood. These symptoms, gradually growing in severity, persisted through the nine months, but rapidly disappeared af-

ter an easy confinement. The baby weighed but four pounds, lived two years and died of diphtheria. The patient now went into a private family as domestic, and did the work without inconvenience until about one year later, when she was again seized at the third month of pregnancy with dyspnea, palpitation, cough and hemoptysis. These symptoms were more severe with this than with the preceding child. She lost color and strength, was unable to lie down after the sixth month, and during the last two months of pregnancy the lower extremities were the seat of excessive edema. The labor was completed in an hour or two, but was attended with great distress, and, according to the husband, for a half hour afterward the patient was unconscious, breathing noisily and apparently moribund, and was plied with stimulants by the two attending physicians. She rallied well, and was soon on her feet again and able to resume work, feeling, however, a persistent slight shortness of breath on great exertion. This child weighed but three pounds and died in a few days.

Three months previous to her appearance at the clinic, and about one year subsequent to her last confinement, she menstruated last, and for six weeks she had suffered from symptoms similar to, but relatively more severe than those which had existed during the two previous pregnancies. She had been obliged to stop work on account of weakness and breathlessness. Palpitation comes upon the slightest exertion. She has a bad cough, especially troublesome at night. Spitting of blood is constant and at times quite profuse. During the past month there has been orthopnea, and every night she is subject to asthma, which begins about dusk and steadily increases in severity until midnight, after which it rapidly subsides and the patient lapses into a sleep, interrupted by cough and dyspnea. Toward evening the feet and ankles swell. Appetite is poor, vomiting frequent, bowels regular.

The patient was well developed, well nourished, pale and slightly cyanotic about the face and hands. There was considerable edema of the ankles. Respiration was rapid and a little labored; pulse, 112, small and compressible.

The area of precordial dulness was greatly increased in its transverse diameter, measuring 8 inches across and extending $2\frac{1}{4}$ inches to the right of mid-sternum. The apex beat was seen and felt in the fifth intercostal space, outside of the mammillary line. The heart's action was tumultuous, irregular in rate but rhythmical. Over the apex were a thrill and a loud purring murmur, presystolic in time and not transmitted. There was accentuation and occasional reduplication of the second sound in the pulmonic area.

Over the base of the chest on both sides there was slight dulness with feeble respiration and numerous fine moist rales, and throughout the chest, front and back, were numerous sibilant and sonorous rales with both acts of respiration, with a prolongation of the expiratory murmur.

There was no evidence of change in the size of the liver; the area of dulness in the region of the spleen was increased, but the organ could not be felt; there was no evidence of ascites. The urine was seemingly normal in amount, high-colored, acid, with a specific gravity of 1023, and contained a faint trace of albumen; in the sediment were a few red blood-discs, but no casts.

The uterus was enlarged and could be felt just above the pubes. The cervix was large, soft, congested and deeply lacerated bilaterally. Milk could be expressed from both breasts.

An attempt was made to relieve the patient by rest, attention to diet, and the administration of digitalis, and with some success. The hemoptysis ceased in a few days, the edema rapidly disappeared, and there was less of the palpitation and dyspnea; but the asthma continued as before. An expectorant mixture, containing iodide of potassium, was ordered; this loosened up the cough, further improved the dyspnea, but had no effect upon the condition at night. Potassium iodide in 15 grain doses, belladonna and nitroglycerine were successively used, but to no purpose;

the only means of giving relief was by the administration of morphia. Toward the end of December the breathing was as bad as ever, and the hemoptysis had returned. The pulse varied from 100 to 120, and the respiration from 25 to 35 per minute. The bleeding again ceased under larger doses of digitalis (♏ xv, t. i. d.), but soon returned.

The patient was now weaker and on the whole worse than when she first came under observation; and it was evident that relief would come only after the interruption of the pregnancy. Accordingly, on January 9, 1889, at the fifth month of pregnancy, a rubber catheter was tied into the uterus, and was allowed to remain there 24 hours without producing any result beyond a few insignificant pains in the course of two hours after its introduction. The catheter was succeeded by a colpeurynter inserted into the vagina and kept there altogether for seven hours, but with no better result.

Finally, with the kind assistance of Drs. C. H. Dixon and W. T. Porter, the patient was carefully etherized, the os dilated manually to admit two fingers, and a fetus, seven inches long, together with the placenta and membranes removed. The operation lasted about ten minutes and the patient was under ether altogether about twenty minutes. At the end of the operation the pulse was 120 and very small, but quickly improved after several hypodermic injections of brandy. The uterus contracted well and without much loss of blood. The convalescence was satisfactory in every respect; the symptoms for which the miscarriage had been performed rapidly disappeared; the patient was up and around after the ninth day, and three weeks later, when last seen, was feeling just as well as she did before becoming pregnant. The rate of the heart's action at this time was 78 per minute, and its movements were quiet and even; the respiration was 18 per minute, the respiratory murmur soft and unaccompanied by rales.

One point in the case which was of absorbing interest to the writer, and for which especially this report is made, remains to be told. The patient had been unable to lie down for two months previous to the operation, and there were present at every examination the physical signs of bronchial asthma. Much difficulty was had in passing the catheter anteriorly into the uterus on account of the partially upright position which the patient was obliged to assume. Yet soon after the catheter had been inserted, the patient had experienced distinct relief from the thoracic oppression, and in the course of an hour was entirely free from it and could lie flat upon her back. A careful examination of the chest shortly afterward failed to detect the prolongation of the expiratory murmur and the sibilant rales which had previously been present, but the moist rales at the bases were still heard. The heart's action was also less violent.

This relief was permanent; no complaint of dyspnea was afterward made except during the first few days of convalescence upon moving about in bed. The asthmatic symptoms had, previous to the insertion of the catheter, been regarded as secondary to the cardiac incompetence and due to a congestion and edema of the walls of the bronchioles; but subsequent events, by proving the bronchial constriction to have been of a spasmodic character, oppose such a connection and indicate rather that the asthma was a reflex from the uterus.

With reference to the propriety of the operation, the writer was guided in his treatment of the case by a consideration of the general unhealthiness of the previous children as well as the past history and present condition of the patient, and his inability to improve the condition by medical means. Upon the failure of a catheter and colpeurynter to induce the miscarriage, a halt might have been made and the asthma possibly kept off by stimulating local treatment of the uterus; but even should this have been successful, the patient would not have been able to pass through the latter months of pregnancy and resist successfully the evil influence of pressure upon the failing heart.

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# EPICYSTIC SURGICAL FISTULA FOR CYSTOSCOPIC EXPLORATION; INTRA-VESICAL TREATMENT AND DRAINAGE.

BY JOHN D. S. DAVIS, M. D., BIRMINGHAM, ALA.

Read before the State Medical Association of Alabama, April 11, 1889.

Epicystotomy has become an established and frequently practiced procedure, and the danger incident to opening the bladder through the abdominal wall is so slight that patients suffering from almost any vesical trouble are encouraged to have the bladder opened for diagnostic purposes and treatment is at a time when the general health remains unimpaired; a practice which, a few years ago, would not have been resorted to by the most aggressive surgeon.

The treatment of chronic vesical catarrh resolves itself into a consideration of the causes producing the disease, many of which, the presence in excess of certain inorganic constituents of the urine, stone, stricture and hypertrophy, are capable of correction; whilst others—such as malignant tumors and certain conditions of the prostate—may only admit of a palliation of the symptoms to which they give rise and the removal of which must be the first object in treatment. But when a paretic condition of the bladder exists provision must be made for the complete continuous emptying of the viscus; its thorough cleansing by frequent irrigation with hot sterilized water; and the promotion of a healthy tone in the mucous membrane and muscular structure of the bladder. The frequent introduction of catheters for drawing off residual urine and washingout the bladder has been productive of much harm, and, instead of giving relief,proved to be,by reason of their frequent introduction into the inflamed bladder to draw off the urine two or three times a day, a source of immediate and alarming symptoms. These facts are cogent reasons for adopting surgical means in all cases of intra-vesical troubles as soon as a diagnosis can be made, and often when it can not otherwise by made, for the complete emptying of the bladder, thorough cleansing, diagnosis, and intra-vesical treatment.

The epicystic surgical fistula is designed for drainage, intra-vesical treatment and cystoscopic exploration, and may be divided for consideration under the following heads:

I. Definition of epicystic surgical fistula.
II. Surgical resources in the formation of the epicystic surgical fistula.
1. Preparation for the operation.
2. Anesthesia.
3. Position.
4. Incision and opening bladder.
5. Intra-vesical exploration and treatment.
6. Toilet and after-treatment.
III. Advantages of the epicystic surgical fistula.
1. Cystoscopic exploration.
2. Intra-vesical treatment.
3. Drainage.

## I.—Definition of Epicystic Surgical Fistula.

Epicystic Surgical Fistula is the title here given to a suprapubic fistula into the bladder created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula, which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, to provide a ready, convenient and comfortable means of emptying the bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications.

It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations, and imitates nature in the restoration of its own continuity and repair as the pathological changes within the bladder subside.

## II.—Surgical Resources in the Formation of the Epicystic Surgical Fistula.

(1). *Preparation for the Operation.*—The presence of two assistants, though not necessary may be of valuable aid. A temperature of 80° or 85° Fah. should be maintained in the operating room from the beginning to the end of the operation. All hair is to be

shaved from the pubis and all the details of antiseptic surgery are to be carried out so far as cleaning the pubis and abdomen. The bladder is emptied and thoroughly washed with warm water. When the water returns clean the bladder is slowly distended with warm sterilized water thrown into the bladder by means of a fountain syringe, with nozzle in urethra—a degree of pressure sufficient to distend the bladder to its utmost capacity—which can never be too great for the resistance of the bladder. It is better to fail in filling the bladder than to distend the bladder beyond the limit of competency. Indeed it is not necessary to fill the bladder to any degree of resistance. I have operated when the bladder was in an irritable condition and would not tolerate distention greater than the capacity of two ounces and had no difficulty in avoiding the pre-vesical fold of peritoneum or finding the bladder. The water is secured in the bladder by tying the penis at the base with a rubber tube.

A colpeurynter is next to be well oiled and inserted into the rectum—the rectum having been previously emptied by enema—and filled with warm water. This distention brings the bladder into view above the pubes.

(2). *Anesthesia.*—My preference for chloroform is the result of my own personal experience with it. It is not free from objections, as its depressing effect on the heart is well known. The operation usually occupies 15 minutes; and, hence, its prolonged use would be unnecessary and uncalled for. The objection to ether is the suppression of the excretions and the frequency with which bronchitis is produced when administered to persons advanced in years. The best course to pursue, when the operation is prolonged, is to follow the use of chloroform by ether. The patient must be kept profoundly under the influence of the anesthetic from the first incision until the superficial wound is closed.

(3). *Position.*—The patient is placed on the back on an ordinary operating table with the legs extended as if in position for perfect comfort and rest. Many surgeons claim advantages in the position recommended by Trendelenburg. Eigenbrodt emphasizes the fact that the elevation of the pelvis in Trendelenburg's position helps the surgeon to the prevesical peritoneal fold at the time of the incision of the bladder.

I have employed this posture for intravesical operation by means of the supra-pubic incision with no advantage over the ordinary flat-back position. With two openings in the bladder for a continuous stream of clear water I have no trouble in illuminating every part of the bladder with the electric surgical light and thus enabled to examine the entire intravesical wall. Undoubtedly the position recommended by Trendelenburg possesses advantages which to the author more than myself, make it highly ideal. As for myself I prefer and recommend the flat-back position.

4. *Incision and opening bladder.*—A perpendicular incision three or four inches long is made in the median line above the symphysis pubis. The recti muscles are separated to symphysis. If the pyramidales are in the way, the fibers should be cut. The transversalis fascia is divided on a grooved director from symphysis to within one inch of upper margin of superficial wound. Instead of following Guyon's maneuver, I catch the bladder with a tenaculum on a line with the symphysis, through the prevesical fat, and cut through with a bladder knife into the bladder with one smooth, clean incision, to prevent undue disturbance of the cellulo-adipose tissue between the bladder and pubis and avoid infiltration. I have never seen a case where it was necessary to put up the prevesical fat, and with it the peritoneal cul-de-sac. If the bladder is caught on a line with the symphysis and cut downwards, no fears need be had for the peritoneum. Cutting this prevesical fat prevents its after dropping down over the opening into the bladder and acting as a valve to prevent easy escape of urine and causing infiltration. And, too, such a procedure gives a smooth incision throughout, and it is almost impossible to have infiltration, even when no drainage tube is left in the bladder and the urine is left to

flow out through the fistulous track and taken up by a layer of absorbent cotton. In making the incision into the bladder, no attention is to be paid to any vein or veins which are sometimes met with. If cut, they will stop bleeding when the bladder is dropped back and the rectal bag removed. The operation is usually bloodless in the sense of hemorrhage. I have operated without the patient losing more than one drachm of blood.

5. *Intravesical exploration and treatment.*—The finger is carried into the bladder and a thorough search made for any tumors, villous growths or foreign bodies. The bladder is now emptied and the rubber around penis untied and the bladder well washed out with hot sterilized water. The bladder can now be examined with the cystoscope and surgeon's electric light. If tumors be found, if practicable they should be removed; villus growths and any foreign body found should be removed. If nothing is found in the bladder, the surgical fistula, in the absence of malignancy, will be all that is required to relieve the cystitis.

6. *Toilet and after treatment.*—The bladder is allowed to drop back into the pelvis and the superficial wound so closed by two sutures (including the skin and superficial facia only) in the lower portion of the incision and one in the upper portion of the incision, as to leave a fistulous track of equal size from bladder to juncture of upper third and middle third of the superficial incision. A large rubber catheter is now to be introduced into the bladder through the opening and its distal extremity allowed to enter a urinal placed in the bed between the patient's thighs, or preferably at the patient's side. Professor F. Trendelenburg, director of the surgical clinic of the University of Bonn, proposed, for draining the bladder in suprapubic lithotomy, the T tube in latero-abdominal position and open wound treatment as the simplest, safest and best. He makes an antiseptic dressing of iodoform gauze around the T-tube. There can be no real necessity for a tube of any kind to be introduced into the bladder for the purpose of conveying the urine from the bladder to prevent infiltration, irritation of superficial fascia and soiling of dressings.

If the urine is kept acid, by the administration of citric acid or some other more palatable acid drink, no better antiseptic than the acid urine can be secured for the constant bath of the parts. It should be allowed to flow out through the wound and absorbed by a pad of absorbent cotton placed loosely over the wound, and removed as often as soiled by the outflowing urine. By this method of emptying the bladder, no possible small amount of urine can be impeded in its out flow, which is the case around and outside of the tube, when catheter or tube is left in for any length of time—a source of no little annoyance at times. This little collected or retained urine, around the outside of the tube alone, I have seen produce a hard chill and elevation of temperature, and become for the time an immediate, alarming and aggravating source of trouble. I never have seen the skin made sore or chafed by the flowing urine in epicystotomy, or from its after escape through the surgical fistula.

The bladder should be washed out twice daily with hot sterilized water, by means of a fountain syringe, with its nozzle introduced into the urethra, the water escaping through the epicystic fistula and guided into a bedpan under the patient. The superficial stitches are taken out at the end of a week, and intermittent catheterization by the fistula is then resorted to for the sole purpose of training the fistula and prevent its rapid closure. It is not necessary to catheterize for the purpose solely of drawing off the urine. In one case I never drew the urine save for the purpose of analysis, but occasionally introduced a rubber bougie to prevent the closure of the fistula. The drainage by the fistula alone is admirable, and the fistula will be well formed in twenty or thirty days, competent to retain urine without dripping and to allow its escape in a good projecting stream at will. With no tearing of the tissues, and, with a clean cut, the drainage is perfect and the dangers are nil.

III.—Advantages of the Epicystic Surgical Fistula.

1. *Cystoscopic Exploration.*—Nitze has by means of the cystoscope been enabled to diagnosticate tumors of the bladder in nine cases in which rectal palpation, the sound and other means had furnished negative results. One of the great difficulties in the cystoscopic exploration of the bladder is the presence of pus, mucus and sometimes blood, which renders it exceedingly diffiult to maintain a translucency of the fluid used to distend the bladder. By means of a simple fountain syringe a constant current of clear water may be kept within the bladder so essential to a complete observation of the trigonum Lieutaudii, the most interesting part of the viscus, the ureters; and to examine any affection of that viscus. The fistula may be made for temporary purposes of cystoscopy by the Peterson-Guyon-Perier operation; but I can see great advantages from a different operation, by Dr. Hunter McGuire, the object of which tends to eliminate as well as detect the trouble within the viscus and too, in the final construction of a permanent fistula, gives an easy after-method of exploration, and makes a better artificial method by reason of its length and extension upwards of two to three inches. Diagnostic purposes are met by the possibility of immediate detection of all local conditions, such as tumors, calculi, foreign bodies, neoplasms, the collection of fluids from the ureters, etc.

2. *Intra-Vesical Treatment.*—Having by means of the epicystic exploration revealed the true nature of the intravesical trouble, the treatment resolves itself into the immediate necessities of the case. For instance, prostatectomy may be necessary, villus papilloma may be found and should be remedied; pedunculated growths may be found which should be removed by the scissors or Paquelin's cautery, etc. In such cases, the opening in the bladder sufficient to introduce the finger, should be enlarged downwards under the symphysis pubis and the operation indicated should at once be performed. The object of the formation of the permanent surgical fistula is to meet the after indications in such operations, the details of which does not properly come within the province of this discussion. However, it is sufficient to state, what is reasonable and practicable, that a better means by which the intravesical wall can be reached and treated therapeutically has not yet been devised.

3. *Drainage.*—Permanent after-drainage in all intra-vesical operations cannot be necessary; but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved and the urine becomes normal and passes per urethram unobstructed. And until this end is attained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths when removal of the obstruction is impossible or contra-indicated, the epicystic surgical fistula is clearly indicated and essentially necessary. It meets every possible indication for local treatment and gives the only controllable, ready and free drainage to viscus and kidneys. Urinary back pressure as the result of incompetency of the urethra from the various immovable prostatic troubles is often an immediate and remote cause of surgical kidney, which can only be removed or relieved by supra-pubic drainage. In conditions of the bladder of long standing cystitis, as in the case reported by me in the Virginia Medical Monthly, in which the urethra, though made competent by cutting, was not sufficient to keep the bladder emptied without catheterization—a procedure which kept up a constant vesical inflammation, which, combined with capillary stasis attending the inflammatory process, resulted in paresis.

I now have the pleasure of introducing that case, Mr. T. A. Nixon to you fifty-eight days after the operation. His condition to-day is sufficient guarantee for all I have said in favoring the formation of an epycistic surgical fistula for the relief of chronic vesical catarrh. The result in this case is more than I promised. He can retain his urine several hours and without dripping of urine or pain to bladder. Urine completely under control and bladder relieved of pain.

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## THE TREATMENT OF ENURESIS NOCTURNA.

Every physician of considerable experience in a general practice has met with the difficulties that often attend the treatment of this common complaint of children. There are cases where everything seems to fail, from the simplest to the most heroic measures, and we are often perplexed to know why the trouble persists, as it often does, in subjects who seem to be in perfect health.

We have read many recommendations for its treatment, based on theoretical grounds as well as on clinical results, including electrical treatment, circumcision, etc. None have appealed to our reason on first sight as much as the one contained in a paper read at the New York Academy of Medicine, December, 1888, by Simon Baruch, physician to the New York Juvenile Asylum, at which place he has had a splendid oportunity to test the various plans of treatment that have heretofore been advocated, as well as the one that he specially recommends and has adopted.

We quote enough of his paper, published in the *Archives of Pediatrics*, April, 1889, to enable our readers to get an intelligent idea of his method.

"But it is not a new remedy that I propose to advocate. On the contrary, it is the trite and well-recommended belladonna, or rather its alkaloid atropia. Many have, like myself, failed to obtain the good effect which others have since its recommendation by Trousseau derived from it, and it is my aim to emphasize in this brief paper the cause of failure, and ascertain from discussion if a better and more uniform result may not be expected by the recognition of the fact that belladonna has been used indiscriminately and without due regard to the necessity of bringing the system completely under its influence.

"It is unneccessary to administer atropia during the day, because the paralyzing effect upon the bladder is required only at night in cases of enuresis nocturna. It is my practice, therefore, to order a sufficient quantity of atropia in the afternoon at four, and at bedtime, seven o'clock, to insure a dilatation of the pupil. One sixty-fourth of a grain for children from six to ten, and double the quantity for children up to fourteen, administered at these hours, usually suffices. If the pupils are widely dilated when the next dose is due it is omitted. Thus poisonous effects have been prevented, and the children were able to continue in their usual routine life. The essential principle of this treatment must be clearly impressed upon the parent or attendant,—viz., the pupil must be dilated during the sleeping hours, as an indication that the system is under the influence of atropia.

"I regret that I can not give you statistical notes of my cases in private practice, but that I have obtained the best results from this treatment I may assure you. I have recently introduced the systematic administration of atropia in the New York Juvenile Asylum, and while my investigations are not yet completed, I desire to offer you the results of the treatment up to the present time. Unfortunately, the records in the girls' ward were so imperfect that I cannot utilize them. Sixty boys received from one sixty-fourth to one thirty-second grain atropia daily, dilatation of the pupil being secured in every instance but two. Although these boys had been occupants of the wet-bed ward for periods ranging from three months to as many years, the result was that after treatment was commenced, five wet the bed only once more, seven twice five three times, four four times, one six times, one seven times, one eight times, and two nine times. Of this number sixteen wet the bed on the last day of the report. The remainder of the entire number—viz., twenty-nine — ceased wetting the bed after taking

the first dose of atropine, and have continued free from the infirmity while under treatment. It is my intention to continue the investigations and to report the results at some future time.

"In the meantime we may feel encouraged by retults obtained by systematic atropine treatment carried to its full effect upon the system."

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## Intubation of the Larynx in Diphtheritic Laryngitis.

Intubation of the larynx is an operation which is making a good fight for a permanent place among those agents that avert death from the obstruction of the glottis. Whether intubation shall in the end stand higher than tracheotomy is a question which time alone can answer.

When a procedure whose potential importance is so considerable is on its trial, the need for the accurate recording of all facts making for or against the operation is very great. It is necessary, as Dr. Dillon Brown has said, "to give not only the number of operations and their results, but also the whole number of such cases seen, whether operated upon or not. It is not sufficient to state simply the number of recoveries following upon each operation [*i. e.*, upon tracheotomy and intubation]. It is essential to form some idea of the character of each case, and compare the result only in similar cases. You must take into consideration the age, the duration, and the amount of laryngeal obstruction, the presence or absence of pharyngeal or post-nasal diphtheria and its duration, the condition of the kidneys, and the presence or absence of sepsis or other complications, as pneumonia, measles, scarlet fever, whooping cough, etc."

This, of course, is all very true, but we see in a succeeding paragraph of Dr. Brown's paper (*N. Y. Med. Jour.*, for March 9, 1889,) no evidence that his caution to "compare the results only in similar cases" has been sufficiently considered in forming his own opinion. The paragraph referred to is as follows:

"If those physicians who oppose intubation in favor of tracheotomy, and who have operated sufficiently often to make their opinion of any value, will give us a complete report of their cases—including all the cases seen, whether operated upon or not—it would be of the greatest value in comparing these operations, and would quickly consign tracheotomy to the background, for use only in special cases."

Physicians who oppose intubation in favor of tracheotomy, and who have operated sufficiently often to make their opinion of any value, may be supposed to have given the subject as much consideration as it has received at the hands of physicians who take the opposite view. It is very much to be doubted whether the cases upon which those who oppose intubation in favor of tracheotomy have formed their conclusions would, if published, "consign tracheotomy to the background," Undoubtedly the complete reports of all the cases seen by the opponents of intubation would be of great value in comparing these operations, but how Dr. Brown in the absence of these reports can be sure that their publication would rout the tracheotomists is a thing beyond our comprehension.

Dr. Brown's cases are 200 in number. Of these, 87 were males, and 113 females. The average age was 3 years and 5 months;of those that died, 3 years and 2 months; of those that recovered, 4 years and 5 months. In fatal cases, average length of life after intubation was 2 days and 23 hours; in cases of recovery, average time of tube in larynx was 5 days and 10 hours. Recoveries, 27 per cent. There are also presented 2,368 cases collected from operators in this country and in Europe, with 647 recoveries, 27.2 per cent.

The statistics which the profession must thank Dr. Brown for collecting are strong arguments, but they seem to us not sufficient to justify the unqualified surrender which the author of the paper makes to them. We use "surrender" advisedly, for it is said that one can prove anything by statistics, and the very existence of such a saying warns us to be on

guard against hasty generalization. It will be soon enough to accept Dr. Brown's conclusions when the evidence for the other side is all in. "In average epidemics tracheotomy will save 20 per cent." (Jacobi, Pepper's System). Intubation saves 27 per cent, an apparent gain of 7 per cent. But it is probable that these figures are not drawn from similar cases, for it is known that intubation is often done when tracheotomy would either be considered not quite necessary by the physician, or refused by the parents of the child. Intubation is less dreaded than tracheotomy. The condition of the patient when intubation is performed is likely to be better than when tracheotomy is the operation. It goes without saying that only the greatest care in selection can in this matter make a comparison of statistics worth a straw. If intubation can show an advantage of only seven per cent over the average mortality of tracheotomy in cases not selected for comparison then the advocates for intubation have not made their point.

The true answer to this important problem is to be gained only by a rigid application of the scientific method; in other words, by an unprejudiced examination of the results in cases properly selected for comparison, and by entirely avoiding anything like special pleading.

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## Functional Heart Murmurs.

Too much importance is placed by the vast majority of physicians upon the presence or absence of a murmur in diagnosticating cardiac valvular lesions. Those who have had considerable experience in this branch of medicine know how necessary it is to take into careful consideration other physical signs of the heart before giving a verdict of valvular disease; in fact, to them the results of inspection, palpation and percussion are in all cases equally important, and in many cases more important than those obtained by auscultation. The old saying that "there is no diseased heart but a dilated heart," is full of truth. No one can diagnosticate a valvular lesion with any degree of definiteness before he has obtained evidence of an enlargement of one or more of the cavities of the heart; furthermore, it is upon this auscultatory evidence, together with physical signs in other parts of the body, that a true prognosis is based.

To return to the subject of murmurs. It has long been well known that murmurs frequently exist without there being any disease of the valves whatever; and distinction of these from those dependent upon organic disease is to be made, it is true, in some cases by the location of their greatest intensity, but in others only by the absence of ventricular or auricular enlargement as indicated by palpation and percussion, together with the presence of certain well defined symptoms of other and general ailments.

Lack of space prevents us from entering into this field of differential diagnosis, full of deep interest and important to every general practitioner of medicine. Our purpose is to direct attention to certain comparatively new points in the physiology of the heart, which throw light upon the origin of so-called functional murmurs, and to bring before the readers of the Review the investigations recently made by Dr. Morton Prince, of Boston, upon murmurs that may be present under certain conditions for a short while in perfectly healthy individuals.

Haemic or functional murmurs are systolic in time and situated either at the base or the apex of the heart. With reference to the origin of basic murmurs, it must be a matter of mere chance that a certain harmony exists between the size of the cardiac chambers, the outlets, the force of the current and the consistency of the fluid, as a result of which no sonorous vibrations sufficient to reach the human ear are ordinarily produced. It is possible that vibrations of low intensity exist under normal conditions, which could be detected if our ears were keen enough; for "sonorous fluid-veins are always generated when the blood stream passes with sufficient force from a part of the circulatory system, which is actually or relatively constricted

(aortic or pulmonic orifice) into a part which, in comparison with the part behind it, is actually or relatively dilated (systemic or pulmonic aorta)." Now, by diminishing the consistency of the fluid or by increasing the intensity of the blood-current, the vibrations may a priori be increased sufficiently in intensity as to render them capable of detection by the ear. The former factor is that generally supposed to be at work in the condition of basic murmurs in chlorosis and other conditions in which the blood is regarded as being watery; but probably violent cardiac action plays the leading role in many of these cases.

The apical functional murmurs are more satisfactorily explained than the basic, in the light of recent investigation.

The conception of the mitral valve usually entertained by practitioners generally and that described in most of the text-books is that the mitral opening, bounded by a ring of fibrous tissue, is of fixed and unvarying diameter, and that the opening is closed by the mitral flaps alone. It is also usually laid down that the base of the heart does not diminish in size during systole.

Hesse has shown by a series of ingeniously devised experiments that the mechanism of the heart is very different in some important respects from that usually supposed. He contrived to obtain casts of the heart during diastole and systole, and from a study of a number of these, he showed:

1. That the area of the base of the heart in the plane of the auriculo-ventricular valves, so far from remaining constant in systole and diastole, is enlarged more than one-third in the latter condition.

2. That the mitral orifice, so far from being of constant size, dilates with the expansion of the base and is constricted during systole. Hesse's observations have been confirmed by the examination of instantaneous photographs of the heart in action obtained by Dr. Wm. G. Thompson.

It would thus appear that the closure of the mitral orifice is partially effected by muscular action—the sphincter-like action of the circular muscular fibers at the base of the ventricles. Or, as Dr. Prince puts it, "during diastole the auriculo-ventricular orifice is too large to be closed by the mitral valve alone, but must be first constricted by the muscular contractions of the base, and that then only the valves suffice to close the opening. The valves may be said to be a size too small for the hole."

Such experiments as these give a new meaning to many mitral systolic murmurs. The murmurs that occur, for example, in the course of acute fevers, of diphtheria, typhoid and probably also in many cases of acute rheumatism, though once explained by hypothetical changes in the blood, are really regurgitant murmurs caused by weakening of the mitral sphincter. The same condition of affairs also probably obtains in chlorosis and that form of general debility brought on by degenerative diseases, both chronic diarrhea and malaria, and also by continued hardships and wear and tear of life. Mitral regurgitant murmurs are very common under the latter conditions. It is also apparent how a slight degree of dilatation may give rise to regurgitation what before was not so clear so long as the basal area and the mitral openings were considered constant. This form of regurgitation may be said to be now fairly well recognized, and has been termed by Balfour "curable mitral regurgitation."

Murmurs may be produced at the apex or base by any condition temporarily acting to produce increased action of the heart.

Violent exercise may by increasing arterial tension and demanding excessive cardiac action bring about a "muscular" mitral insufficiency with its characteristic murmur. Roy and Adams have shown definitely that ordinarily not all the blood is pumped out of the ventricle at each beat, but a small cone of blood remains back of the aortic orifice. Under unusual exercise this amount of blood is larger, and if the demand upon the heart is further increased, a point is finally reached at which the amount of residual blood is sufficient to produce a dilatation of the ventricle; the mitral sphincter is inhibited, and there results a true mitral leak.

Even milder influences are capable of bringing about this effect. Physicians who, during their examination for life insurance or other purposes, make it a point to examine the heart carefully in every case, frequently meet with in perfectly healthy individuals murmurs at base or apex, which may disappear as the examination progresses, or can not be detected at a second sitting.

Dr. Prince, in an article published in the *Medical Record* for April 20, 1889, states that he has found such mitral murmurs present in 25 out of 77 individuals who presented themselves to him as applicants for positions in the Boston Fire Department, and out of these twenty-five, there were twelve cases in which an arterial murmur co-existed. In three of these the murmurs disappeared during the examination and in many of the others they could not be detected at a second examination.

In many of them, the character of the pulse was noted at the same time, and in the vast majority of cases was found to be more or less violent. He explains them as being brought on by unusual action of the heart under the excitement of the examination, the effect of which we have already explained. Dr. McCollom, who examines for the Boston Police Department, reports that he has detected a mitral systolic muffle in 18 out of 111 healthy men.

It behooves every physician to bear in mind such facts as these, and never hasten to make a diagnosis of heart disease on the strength of the murmur alone. Such mistakes are frequently made, and being made every day. We return to the saying, "there is no diseased heart but a dilated heart."

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## Amputation of a Thigh of a Three Days Old Girl.

Dr. J. W. Maddin, Jr., of Nashville reported a case (*Med. Rec.*) in which a female child at birth was the subject of dry gangrene of the right leg, which extended to the junction of the middle with the upper third of the thigh. From the knee down the bones were bare of any covering, the foot was mummified and attached to the leg only by a few shreds of mortifying tissue. No line of demarkation had been formed, but on the third day an indistinct one was seen and it was deemed advisable not to wait longer. The child was placed under ether, hemorrhage controlled by thumb pressure on the artery beneath Poupart's ligament, and the thigh amputated in the healthy tissue. The child rallied from the operation promptly, and at the time of writing it presented "every prospect of recovery."

The only cause which Dr. Maddin could assign for the condition was wrapping of the cord around the limb in the early months of pregnancy, or to a fall which the mother sustained eight days before delivery.

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## Purulent Ophthalmia.

It is to be regretted that in the treatment of disease we have so few medicines that can be termed specifics. With the accumulated experiences of thousands of observers, opinions of physicians seem to be as diversified as ever as to the proper treatment of some of the most common diseases that we meet with, such as pneumonia and typhoid fever.

Though statistics are decried by many and have been proven in many instances to be fallacious, they constitute the best means at our command for determining the effect of remedies upon disease.

It has been proven to the satisfaction of many in the profession that thousands of infants have been prevented from becoming totally blind by having proper attention paid to their eyes during the first few weeks following birth. From time to time the attention of general practitioners has been called to the careless way in which nurses and midwives wash new-born infants—it is the exception rather than the rule that the eyes are properly cleansed. Sweet-oil should first be rubbed on the outer surface of the lids, then they should be thoroughly washed with warm water and pure soap, then the lids should be separated, and the cul-de-sacs of the conjunc-

tivæ filled with a solution of nitrate of silver, two grains to the ounce of water. So long as there is no abrasion of the cornea, a weak solution of nitrate of silver can be used with perfect security, repeated every few hours and continued for two weeks when necessary.

Dr. Grandeloment, of Paris recommends a treatment (Lyon Medicale) which he considers almost a specific in cases of purulent ophthalmia—cauterize the conjunctiva of the diseased eye with a two per cent solution of nitrate of silver, applied with a brush; wash thoroughly the conjunctival sac, every hour, with a solution of bichloride of mercury, one to one-thousand. This treatment he regards as applicable to all cases of purulent ophthalmia whether in the adult or infant.

## MEDICAL ITEMS.

The A. M. Association.—Dr. W. B. Atkinson, permanent Secretary, says that letters received from New York and New England physicians indicate that we shall have a large meeting at Newport.

Treatment of Ozena with Glycerine.—Dr. Sidlo, of Vienna, washes out the nasal cavity daily with a two per cent solution of chlorate of potassium, to which ten per cent of glycerine has been added. He then inserts rolls of cotton soaked in a mixture of glycerine and water, one to three, allowing the tampons to remain one hour. The *Med. and Surg. Reporter* thinks this treatment so simple and apparently so rational as to be worthy of further trial. Anything that will aid in effecting cures in marked cases of ozena will be welcomed by the profession.

Fistula of Colon, the Result of Traumatism.—There came under the care of Prof. Sulzer, Vienna, a patient who one month previously had received a stab-wound in the tenth intercostal space of the left side, in the axillary line. Immediately following the injury, several loops of intestine protruded from the wound. A neighboring physician washed the intestine, replaced it in the abdominal cavity and closed the external wound. When the patient was examined by Dr. Sulzer, a fistula was found at the site of the original wound which communicated with the colon. An operation was performed for the cure of the fistula. The external opening was enlarged, the colon detached from its surroundings, the opening in it closed by suture and the external wound then closed.

## SOCIETY PROCEEDINGS.

### PHILADELPHIA OBSTETRICAL SOCIETY.

Stated meeting, Thursday, April 4th, 1889. The Vice-President, Dr. W. H. H. Githeus, in the chair.

Dr. G. E. Shoemaker described an improvised waterproof drainage-pad for operations.

The only point of the arrangement here described is that it may be improvised in any household, even the poorest; and it is not intended that it shall take the place of the excellent device so widely advertised by an instrument-maker, except in emergencies. It happens to every one, however, to be called upon to do various minor operations when out of the reach of all formal apparatus, and in a number of cases where it was desirable to use water freely without wetting the bed or the patient, the writer has obtained the greatest comfort and satisfaction by the following means:

The necessary material, which can be had anywhere, consists of a sheet or thin coverlet and a piece of rubber cloth or table oil-cloth.

The sheet is folded twice, and then made into a tight roll about three or four feet long to form the rim. This roll, laid near the edge of the bed or table, is bent into the form of the letter O, with a six inch opening on one side of the O, the ends of the roll at this opening being fastened by safety-pins strongly to the edge of the mattress or the cover on the table.

When the rubber cloth is thrown loosely over this, a basin is formed which is open at the edge of the bed, and fluids readily find

their way into a vessel on the floor to which the rubber cloth leads. Even a prolonged perineum operation, under constant irrigation, may be accomplished without any disarrangement or leakage. The same arrangement will be found to be of great assistance to patients in that troublesome procedure, the daily hot-water douche.

This may, of course, be called only an adaptation of the idea in the advertised pad before referred to. It may also be called a modification of the waterproof sheet which every woman has used on her bed since the deluge. The only object here is to call attention to the fact that we can, any of us, by simply making a curved ridge in this sheet, and paying some regard to the ordinary laws of hydrostatics, make for ourselves in five minutes a very great convenience, and save our patients and their attendants a good deal of trouble and annoyance.

Dr. W. S. Stewart narrated the removal of a large, adherent, degenerated, parovarian cyst:

A young lady, aged 24 years, was brought to our hospital from New Jersey, by her physician, for examination and such treatment as should be determined on. I found in the left iliac region a hard mass, which, at first examination, seemed to be solid; but a more careful examination with the finger in Douglas' cul-de sac, with palpation from above, revealed some fluctuation. On moving the uterus, the mass was found to be adherent to that organ, causing some doubt as to whether or not it was a true ovarian trouble. In consultation with my *confrere*, Dr. Montgomery, it was decided to remove the tumor, as from the history it evidently caused much suffering, with rather increased pain, distress and irregular menstruation, and was developing more or less rapidly.

Two days later the patient was put on the table, and she almost died from the ether before the operation began. I was kindly assisted by the resident Dr. Hughes, chief of clinic, Dr. West, and Dr. Dorman. On reaching the upper portion of the tumor, I found it adherent to the omentum, to the small bowel, to the walls of the abdomen, to the uterus, and to every part with which it was approximated. It was also deeply seated in the pelvis. On introducing the trocar, I found that the tumor was filled with pus. The liquid degenerated, and we had a pent-up septic fluid in an almost aseptic condition. I rapidly removed the disintegrated sac from the parts to which it was attached, working as rapidly as possible, for the patient seemed to be going to die every moment. Not finding any pedicle, I was obliged to dissect the sac off as carefully as possible, and was delayed some time in getting it off. Considerable oozing but no special bleeding occurred. I found the adhesions to the uterus so firm that it was impossible to separate the sac, and if I had used a knife, considerable time would probably have been required in ligating the vessels. I therefore transfixed the side of the uterus with a ligature, and tied both above and below, and clipped off the margin as close as possible without affecting the ligature. Where the sac penetrated deeply into the tissues of the pelvis, I ligated as closely as possible and clipped off the remaining portion of the sac. The pus escaped considerably through the pelvis, and I thoroughly irrigated with pure warm water and stitched ed up the wound, leaving a drainage-tube in position. The patient was returned to her room with a temperature of 96°, almost moribund. Under the use of restoratives, hot bottles, hot applications, and hot room, she soon regained her normal temperature, and made a speedy recovery without an untoward symptom. The stitches were removed on the eighth day, and the drainage-tube allowed to remain until the ninth day. The present prospects are that the patient will entirely recover, and is now (third week) going about her room in the hospital.

As bearing on the cause of this trouble, I would say that I have learned that she lived on a farm, and that four years ago she took the part of a man in the harvest-field. Her work was pitching the sheaves from a platform in the barn up into a higher portion of the mow. Not having the strength to use the long handled fork, she put her elbow down

on the affected side, and with this as a fulcrum, and the other hand as a pry, she threw the sheaves up. In this way, possibly, she injured herself. This is a suggestion worth knowing, as a possible cause for this development. At this time she was wearing corsets, and this would confine everything, so that the pressure of the elbow caused an additional strain or possible contusion.

DISCUSSION.

DR. M. PRICE.—One point that I have noticed in regard to these pus tumors is, that the danger of the operation does not seem to be increased by the fact that they are filled with pus. The patient referred to had probably been in a septic condition at the time of operation, and the moment that the tumor was removed and thorough drainage instituted, her chances probably were as good, if not better, than in a case of simple tumor not in a sloughing condition. I have never seen a tumor filled with pus give any trouble after removal. So far as I know the patients have always done well.

DR. J. M. BALDY.—I must disagree with Dr. Price. It seems to me that the presence of pus and of a septic condition would considerably increase the risks of operation. In the removal of a cyst in which there had been no septic trouble, and before suppuration had taken place, the woman would be in good condition, and probably have suffered from no symptoms, save, perhaps, those of slight enlargement. In case of that kind the risks would be small. Where a woman becomes septic from whatever cause, the risks are seriously increased.

In regard to the cause suggested, I think that there is no very good basis for assuming that this had any effect. I do not think that the pitching of sheaves and the pressure of the elbow would cause the development of such a tumor. This might have been an incidental exciting cause, but that it was the primary exciting cause we have not sufficient ground for believing. Many women develop tumors without having any severe labor of that kind. On the other hand, I have seen women who have performed such labor daily, to the severity of which I can personally testify, and never develop anything like ovarian trouble. The wholesome exercise of work in in the field would, in a healthy woman, predispose rather to good health than to disease.

DR. M. PRICE.—It is a well-established fact in surgery that a recent injury in a previously healthy individual requiring a surgical operation is more dangerous than where the operation is for an old injury. The chances of the second patient would be a hundred-fold better. I had my limb broken. A healthier boy never lived, and for six weeks it was a struggle for life. A year later I had the limb amputated, and I can testify that I have suffered more from the extraction of a tooth than from that operation. If the limb had been operated on at the time of the injury, I should probably have died. I was not used to suffering. There had been no preparation. I do not pretend to say that the presence of pus gave the patient a better chance, but the suffering prepared her for a surgical procedure which, in her case, would be more successful than it would be in a case of simple tumor with adhesions. In uncomplicated ovarian tumor, the operation is one of the simplest in surgery. The case reported was probably one of intra-ligamentous cyst, or perhaps a twisted pedicle. If the operation had been performed before pus appeared, with these strong, unchanged adhesions, her chances would not have been so great as after sloughing had taken place, and degeneration of the adhesions had begun. There was less hemorrhage and less shock. The patient had been prepared for what had to be done.

DR. W. L. TAYLOR.—I would agree with Dr. Baldy that the removal of a sloughing cyst would cause greater risk to the patient than the removal of a simple ovarian tumor. A patient with a sloughing cyst is necessarily suffering from septic trouble. She is weak and depressed, and her vital powers are lessened. In an ovarian cyst the vital forces are in a good condition for operation. This is the only point to which I would refer, as I did not hear the paper.

DR. STEWART.—I think that both Dr.

Baldy and Dr. Price may be right. Where the septic condition has not reduced the patient to such an extent as to preclude their recovery, they often resist shock and recover rapidly. The shock is less severe than in an operation on a patient in vigorous health. I can understand this, and have seen it in some cases.

In my case the patient scarcely survived the operation; but when the effects of the shock had passed off, her recovery did not seem to be influenced whatever.

Dr. J. Hoffman read the following:—

"Craniotomy for a Case of Hydrocephalus, with a Discussion of the Technique of the Operation, together with a Consideration of the Conditions that demand it."

At midnight of Dec. 23, 1888, I was called by a midwife to see a woman. She was unable to deliver, after, as I afterwards found out, continual effort for four hours. I found the woman much worn out by her pains, which were ineffectual, though her pulse and condition were, all in all, good. Examination showed a large head, well engaged, lying transverse in the pelvis, the occiput to the left.

I at once put on the Poullet forceps, but though they were accurately applied, was unable to rotate the head, the forceps finally slipping. After a great deal of difficulty, I again succeded in applying them, with like result, slipping on traction. A third effort to apply them was only successful after placing the woman on her side. Traction was, however, no more successful than before. I then desisted from further efforts at delivery, two hours having elapsed, and brought Dr. Joseph Price in consultation. Dr. Price, after a great deal of trouble, succeeded in applying the Tarnier traction forceps, with no better success, however, than had followed the use of the Poullet instrument. From the constant slipping of his forceps, Dr. Price suspected a hydrocephalic head, and so expressed himself. I, on the contrary, thought otherwise, as the bones while not so firm and resisting as usual, did not seem to be sufficiently flacid to indicate hydrocephalus, at least to me. Events, however proved the correctness of Dr. Price's suspicion, or rather diagnosis; for there being no heart sounds when the head was perforated, the rush of water left no doubt as to the true condition. The instruments used were those presented to-night, as they already have been before. They consist of a crushing forceps, which, from its pelvic curve, is as readily introduced and applied as the ordinary forceps. The non-fenestrated blades afford the safety of a speculum for perforation, and leave no manipulation necessary after that part of the operation has been performed. All considerations for this subject seem to take for granted that the crushing instrument in all craniotomy procedures must be applied after perforation. This, it seems to me, supplies one of the greatest dangers of the operation, and conduces to an unnecessary fatality. The preapplication of the crushing instrument not only protects the maternal soft parts from the danger of injury by the perforator, but also a more exact adjustment, by a gradually applied force as the head is reduced and its contents evacuated by the perforator. The ease of application of this instrument can be appreciated by anyone familiar with the ordinary forceps.

The point of the perforator Dr. Price has intended to be protected by the buckskin finger, and the skull pierced through it. This is, however, not really necessary, as the speculum afforded by the crushing blades, together with that afforded by the introducing finger, makes the leather unnecessary.

The combination of instruments afforded in this craniotomy set seems to leave nothing further to be desired, even if further destruction of the fetus is necessary, than the mere reduction of the head. For the consideration of the conditions which demand this operation, there is at present, perhaps, a greater necessity than the mere statement of its technique with any set of instruments whatever. Many of our recent writers apparently desire to condemn it in all cases whatsoever upon the living fetus without exception. As a type of these may be taken the views of Dr. Busey

in the *Am. Jour. of Obstet.*, January, 1889. These writers, of whom Dr. Busey may be taken as a type, fail to appreciate the fact that we need go back no further than Hodge to find that in cases where the short diameter of the pelvis is two inches or under, the Cæsarian operation is to be preferred, as affording a better prospect for the mother, while having the strong recommendation of affording a good prospect of safety to the child; this, too, before the improved Cæsarian operation was devised. These writers seem, too, to fail to appreciate that long ago as the writer referred to, to go no further back, the early performance of the Cæsarean section was specifically stated as justifying strong hopes for "the salvation of both mother and child." It is not the purpose of this paper to discuss the relative merits of the Cæsarean section and craniotomy, nor the comparative values of the mother's and the infant's life. It is not possible to avoid, nevertheless, the observation that those writers who unhesitatingly apply the statistical method at arriving at conclusions relative to these in favor of the first operations, seemingly forget that the dangers of craniotomy almost entirely lie within the limits already admitted into the domain of legitimate Cæsarean section, and that outside of these cases the danger to the mother is almost absolutely nothing, as admitted by Lusk in his late discussion. They seem, too, to consider that craniotomy, to be successful, must be done by the expert, and that the Cæsarean section is the safer, no matter by whom performed. To this we submit a positive disagreement, though even Mr. Tait has gone so far as to say in effect that the removal of the pregnant uterus is a simple operation. Dr. Busey refers to the "dream of Tyler Smith, as to the abolition of craniotomy from the obstetric practice."

When we consider the paper of Tyler Smith, to which reference is made, we can readily understand how opportune was the plea. The table of cases therein quoted from cases in "British Practice," affording excuse for craniotomy, state twenty-five indications for its performance, among which are, to wit: arm or shoulder presentations, rupture of the uterus, face presentations, bands or cicatrices in the vagina, placenta previa, rigidity of the perineum, occipito-posterior presentations, etc. "With such 'indications' as these, there was need of a voice crying in the wilderness."

The point to be here considered is whether the decrial of the abuse of any operation necessarily implies that there is never any requirement or justification of such operation. We think not. No one will dispute that where there is danger to the mother in the performance of craniotomy, the conservative operation of Cæsarian section should be performed. On the other hand, where there is no danger to the mother whatever, I consider it questionable whether any obstetrician here present would subject his own wife to the danger of a capital operation in order to save the life of the child. Secondly, in cases where such deformity as hydrocephalus or spina-bifida is discovered, I do not believe that the life of the child should be considered as compared with the mother's in the danger of the Cæsarean section, providing that the pelvic contraction be not so great as to bring craniotomy farther beyond the danger-line than the Cæsarean operation.

The application of the same principle in the case of monsters needs no discussion.

The woman recovered without a bad symptom.

### Discussion.

Dr. Stewart.—I would say a word in regard to this case of hydrocephalus. I have had two or three such cases and have had no difficulty in delivering after penetrating the skull and allowing the water to escape. I consider this an ingenious instrument, but I have used the old-fashioned perforator, cutting both ways. After introducing the blades and separating them you have a free escape of the liquid. The skull then collapses, and there is no further difficulty. You can deliver them with any forceps. Such has been my experience.

Dr. Daniel Longaker.—I have not used this instrument of Dr. Price, but I can readily

see that in a certain class of cases, *e. g.*, hydrocephalus, it would be excellent. I desire, however, to say that in craniotomy, and especially in cases of marked deformity of the pelvis, I have used with the most marked satisfaction the cranioclast of Braun, and the perforator of Blot. I do not see how in ordinarily careful and skilful hands any injury can be done with this perforator. The trepan is certainly a safe instrument.

Dr. J. Price.—I have discussed this matter on several occasions, but the remarks of Dr. Longaker invite me to say something. The application of the instruments mentioned is difficult. When closed they occupy one inch of pelvic space. Much damage is often done, and the mortality in craniotomy has been largely due to injury of the maternal soft parts by this instrument. In one case the sacrum was trephined with the instrument alluded to. Hodge long ago called attention to the use of the ordinary forceps as a compressor. This instrument is made on the same principle, and the strength is in the handles. You can crush anything with this instrument. Any one who can apply the forceps can apply this instrument in any pelvis where the forceps can be applied. It can be applied in a pelvis with a diameter of one and a half inches. I have seen it successfully applied by beginners in the case of dead children without doing any mischief. The instrument is used first as a speculum, second for fixation, and third for compression.

Dr. Longaker.—It is only necessary to refer to my own experience with cranioclasis, and to confirm my favorable opinion of the operation. I will refer to a paper which can be found in the *Am. Jour. of Obstet.*, I think, for December, 1884. Cases by the fifties and hundreds are reported without a fatal result. This is a proof of the safety of cranioclasis, which I consider the better operation where there is a high degree of pelvic deformity.

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Dr. Fitch, a graduate of Yale Medical School of 1884, is now director general of police at Salvador, South America, having about 4,000 men under his command.

## SELECTIONS.

### ACUTE MANIA AND MELANCHOLIA AS SEQUELÆ OF GYNECOLOGICAL OPERATIONS.

BY T. GAILLARD THOMAS, M.D.

The object of this paper is to place on record a rather remarkable experience as to the occurrence of acute mania and melancholia as sequelæ of gynecological operations.

I do not announce these peculiar and alarming states as complications, or necessarily as results of operative procedure, but merely as sequals which may or may not be dependent upon it, Further, in this connection I would disclaim the position that the operations performed for the relief of diseases peculiar to women are especially liable to such sequences; but all the surgery which I do being of this character, I am forced, as I limit myself to my personal experience; to confine myself to this field.

I shall relate to-night six illustrative cases. Out of these, four were violent, and showed great mental exaltation throughout; two were melancholic in their development, but they were acutely, violently melancholic, bustled about wringing their hands in their busy distress, and after a short illness they died, as did two of the four who presented symptoms of pure exaltation. [The cases are related in detail, after which the doctor continues:]

There is very little literature extant upon this subject, which, until very recently, has appeared to attract no attention. For obtaining what little there is I am imdebted to two of my friends, Dr. Paul F. Munde and Dr. Andrew J. McCosh, who have kindly looked it up for me. Prior to the year 1887 there is nothing. During that year Dr. Edward J. Ill, of Newark, N. J., published a very interesting little pamphlet, embodying his own experience and that of some of our German colleagues, entitled "Acute Psychoses following Gynecological Operations."

Dr. Ill collected the records of 10 cases, in which acute mental aberration followed gyne-

cological operations. Of these, three occurred in his own practice; one, a case of acute mania, and another, a case of melancholia, followed ovariotomy; and the third, a case of melancholia, resulted from the performance of minor operation upon the bladder. All recovered.

Reports of the seven cases which follow were all drawn forth by the discussion excited by a paper read by Graube before the Berlin Gynecological Society in 1887. One case reported by Graube occurred after perineorrhaphy, performed by Paul Ruge, and is entitled by the reporter a case of hypochondriasis. The second case was reported by Duerelius as following amputation of the cervix. Czempin reported five cases of acute insanity which occurred at Dr. A. Martin's hospital. Of these, two followed excision of the rectum for carcinoma; one, an operation for prolapse of the uterus; one an excision of hemorrhoids, and one followed ovariotomy, which ended fatally on the tenth day, the mania being the cause of death.

In the same year Guanck reported a case of severe melancholia following simple perineorrhaphy.

In 1888 Werth, of Kiel, read a paper on this subject before the German Gynecological Society at Halle, in which he stated that in three hundred operations on the female genital tract he had in six instances observed psychical disturbances, due to the operation. In two cases the operation was total extirpation of the uterus; in two removal of the ovaries, and in two ovariotomy. One patient was violently excited before the operation. In five cases the mental disturbance took the form of melancholia and in one of mania. In one case the psychosis appeared five days after the operation; in one eight days after; in one two weeks after; in another three weeks after; and in the two remaining cases it developed after the patients had been discharged. Of the six cases three recovered; one after fifteen days; one after four months, and one after eight months. In two of the remaining cases there was no improvement, and the third patient committed suicide three months and a half after the operation. The phenomenon could not be referred to iodoform poisoning, as the drug was used sparingly or not at all.

Sanger, in discussing this paper, said that he recalled several cases in which cerebral symptoms had developed after gynecological operations. In two instances these were clearly referable to iodoform, though little was used on the dressings. In spite of the facts stated, however, he believed that patients with pelvic troubles having a tendency to psychoses should be treated in the same manner as other women.

In an article by Fillebrown, of Hamburg, published in *Amer. Jour. of Obstet.*, for Jan. 1889, the author mentions three cases of mental disturbance following gynecological operations, observed by Prochowick, of that place. In one case there was removal of the uterus; in one, cystocele and perineorrhaphy, with amputation of the cervix; and in the third, ovariotomy. In one case intense melacholia came on in four months after operation, and when the report was made, nearly three years after, although the patient had improved very decidedly, there were still periods when she showed signs of excitement. In the second case melancholia appeared three months after operation, and one year after, at the time of his writing, the patient still had attacks at intervals, though she was improving steadily. In the third case violent mania developed three months after operation, from which the patient entirely recovered.

In four out of my six cases there was evidence of eccentricity even before operation; and in two of these four cases it was quite marked at times. In all my cases except one there were distinct prodromic symptoms following operation and antedating by some days the formal outburst.

In none of my cases could I discover evidences of hereditary tendency to insanity.

Out of my six cases, four died, one completely recovered, and one case is still in progress.

In all my cases except one the renal secre-

tion was carefully watched and examined; and in none did the kidneys appear to be factors in the mental state.

In four out of my 6 cases not a particle of iodoform was used at any time; so these are out of consideration in reference to iodoform poisoning as a factor. In the two remaining cases iodoform was used, as I always used it, very cautiously and entirely on the line of cutaneous union, where absorption would have been next to impossible.

Should the suspicion enter the mind of anyone that one or more of my violently maniacal cases may have been instances of sudden and severe septicemia marked by delirium, I can merely point to my very large experience with septicemia in its various forms, and reply that I feel very confident that the suspicion is unfounded.

It will be seen that, my cases being added to those recorded by others, twenty-six instances of acute mental aberration following upon the performance of gynecological operations are now placed upon record.

Before concluding, permit me to propound to this learned body certain questions which in this connection have suggested themselves to my own mind.

1st. Were these twenty-six cases of mania and melancholia really due to the operations which immediately attended them, or did they follow as mere coincident states,post hoc sed non propter hoc?

2d. Any great mental strain may be followed by mania. Is it at all remarkable that in the vast number of gynecological operations which have been performed during the last quarter of a century in America and Germany, twenty-six cases of this malady should have occurred?

3d. If the mania which followed operative procedures in these twenty-six cases was a consequence of them, how in the future is a tendency to the accident to be avoided?

4th. Are the operations of gynecology any more likely than other surgical procedures to disturb the condition of the mind?—*Med. News.*

Creasote in Lung Affections of Children.—With a few exceptions almost all observers speak well of the value of creasote in tuberculosis, and agree in saying that even if recovery is not to be hoped for, marked improvement of the chief symptoms follows its employment. All the communications hitherto published relate to adults, and Prof. Soltmann, of Breslau, is the first to record his experience of the remedy in children. We have, he says, given creasote in chronic lung diseases with little or advanced destruction without considering the presence or absence of bacilli. After all due allowance is made for care in hospital, suitable nourishment, baths, good air, etc., considerable advantage is evidently derived from the administration of creasote, since cases which were not doing well began to improve unmistakably under increasing doses of creasote. He gives two to seven drops of creasote a day—*i. e.*, from one to six grains, while adults were ordered from four to eight, or even twelve grains daily by Sommerbrodt.

Soltmann's prescription is this:

℞.—Creasote - guttæ 4–14.
Sp. æther. - - - vj–xij.
Aq. dest. - - ℥j℥vj.
Sacch. alb. - - ʒiiss.

A teaspoonful every two hours.

It merits especial mention that the creasote was well borne by all the children. Stomach-ache, nausea, vomiting, diarrhea, inconveniences which often render treatment by creasote impossible in adults, never occurred. Even in high fever, which by all authors is spoken of as a contraindication, the creasote was taken without disadvantage. That the large doses helped to give the good results is probable from Guttmann's experiments on the antiseptic power of creasote on many micro-organisms. Very remarkable in many cases was the increase of appetite and gain in body-weight, the diminution of cough and expectoration, and gradual disappearance of pathological lung-symptoms. He concludes that creasote exerts in chronic lung-disease with suspicion of tuberculosis a markedly favorable influence, especially in cases

where there is not too much destruction of lung or other severe complication, and when there is not high fever, the general strength being relatively good.—*Lon. Med. Rec.*

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THE MORTALITY OF PNEUMONIA.—Dr. William Osler (*Univ. Med. Mag.*) points out that hospital statistics do not warrant the assertion that there has been any marked in crease in the mortality from pneumania of late years, as asserted by some, although the census returns of the United States favor the latter statement. But, as Dr. Billing's points out, the comparisom with preceeding years is inaccurate, since the data were very imperfect and unreliable. At the Pennsylvania Hospital, with a total of 704 cases since 1845, the mortality has been 29.1, a rate sometimes much exceeded, as in 1875 to 1877, when it was 36.2, and sometimes quite as much lessened, as in 1845-47, when it was only 16 per cent. In the Boston City Hospital for thirteen years the mortality was also 29.1 per cent. Dr. Osler shows that in private practice the rate is lower than in hospitals, and points out that the increase of pauper populations in large cities is doubtless responsible in some measure for this diversity. Dr. Hartshorne's statement, that the "mortality of pneumonia to-day is, under similar circumstances, more than twice as great as it was forty years ago," is not thus borne out; and Dr. Osler shows that in many cases pneumonia is absolutely uninfluenced by treatment. Yet those cases which do call for treatment are precisely those in which our methods are most futile. Post-mortem records show how seldom a simple pneumonia, apart from chronic disease of other organs, is a cause of death, but Dr. Osler thinks that it may be useful to divide the fatal cases in groups: 1. "Those in which the death has resulted from such complications as gangrene, meningitis, and ulcerative endocarditis—conditions at present beyond our art to remedy. 2. Cases in which death has resulted from mechanical causes—over-distention and paralysis of the right heart. 3. The large group in which death has been due to failure of the general powers under the influence of the high fever, or of the specific poison, or of both combined." He has often asked himself why death occurred in some cases, and had been struck with the distended right heart and systemic veins in the young vigorous subjects that sometimes succumb. This seemed to indicate that the heart had failed in over-distention, and he was determined "not to let such cases die without a copious venesection." For ten years he has practised free bleeding (twenty to twenty-five ounces) in adults and has seen but one case recover out of twelve or fifteen. The cases of bleeding in the late stage were uniformly fatal, as if the conditions present in pneumonia are something more than mechanical.—*Can. Lancet.*

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MEDICINAL USES OF THYMOL.—Dr. Frederick Henry reports in the *Med. News* having used thymol with success in many cases of acute and chronic intestinal disorders, and in the diarrhea of typhoid fever. Under the use of this medicament there is a fall in the temperature, a diminution in the number of stools, absence of cerebral excitation, the tongue becomes moist and clean, etc.

The employment of thymol is based on its well-known antiseptic properties, and its action in the intestinal disorders above mentioned is dependent on its great insolubility, by reason of which it passes out of the stomach unchanged, and mingles with the contents of the intestines, where it neutralizes the toxic ptomaines which form in considerable quantities in the catarrhs of the gastro-intestinal canal. It is well known that many authorities believe that it is to absorption of these toxic products of fermentation and putrefaction that the typhoid symptoms are principally due.

Dr. Henry generally prescribes thymol under the form of pills made with castile soap.

The ordinary dose is two or three grains every six hours; although this dose may with safety be increased, yet no better results, he thinks, are obtained with larger doses. In only one case he noted the appearance of digestive disturbances.—*Brit. Med. and Surg. Jour.*

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VIII. A CONTRIBUTION TO THE STUDY OF GUN-SHOT WOUNDS OF THE LUNG.—I. J. Nave, M. D, Cincinnati, *Cincinnati Lancet Clinic*, April 13th, 1889.

IX. ONE THOUSAND CONSECUTIVE CASES OF ABDOMINAL SECTION.—Lawson Tait, *Brit. Med. Jour.*,

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### A SIMPLE METHOD OF SECURING THE LINGUAL ARTERY DURING THE OPERATION OF EXCISION OF THE TONGUE WITH THE SCISSORS.

At a late meeting of the Medical Society of London, Mr. F. Bowreman Jessett read a paper describing his method of tying the lingual artery in excision of the tongue. He said that in some cases of excision of the tongue with scissors the hemorrhage was often very severe and even alarming. Moreover, in many of the cases that died after this operation, the fatal result was due to the fact that a quantity of blood found its way into the air-passages, and septic pnemonia followed. If this were so, it was obvious that it was all-important to prevent hemorrhage as much as possible during the operation. Again, in removing the tongue with scissors, if the artery was not seized directly it was divided it often retracted, and the bleeding point was with difficulty seen and secured. He had had oportunities of putting the method into practice, and had found it easy and effectual. The operation was only applicable when the disease was limited to the tongue itself, and when the floor of the mouth was free. The tongue being drawn well out of the mouth, the frenum and mucous membrane of the floor of the mouth around the half, or whole of the tongue if the entire organ was to be removed, was divided in the ordinary way with scissors slightly curved upon the flat. The tongue next being drawn well forward and upward, a few fibers of the genio-hyoglossus muscles were divided and torn through deeply with the finger. An ordnary aneurism needle, threaded with No. 4 Chinese silk, was thrust deeply down between the two genio-hyoglossus muscles, the point being directed downward and backward until it was opposite the second molar tooth; the point was then turned outward and brought out of the incision pre viously made through the mucous membrane, unthreaded and withdrawn. The ligature

was next tied firmly and as deeply as possible. A pair of clamp forceps, curved and somewhat larger than those in ordinary use, were passed down and made to catch the tissues on the distal side of the ligature, to prevent the possibility of the ligature being snipped as the tongue was being removed. If it was desired to remove the whole tongue, the same maneuver was carried out, and the artery on the other side secured. The surgeon then could snip out the organ at leisure, with practically no hemorrhage.

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## Milroy's Medio-Tarsal Amputation.

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Under this title was published, in *The Journal* of March 30th, in the columns for Medical Progress, the report of a case copied from the *Glasgow Medical Journal*, of March, 1889. The case was one of medio-tarsal amputation performed on account of severe injury of the foot, by Dr. Milroy, of Kilwinning, Scotland, September 7th, 1885, and reported by him to him to the Surgical Section of the Medico-Chirurgical Society of Glasgow, January 25th, 1889. It was spoken of as a new operation, and its advantages compared with those of the operations of Chopart, Syme and others.

Since the appearance of Dr. Milroy's case in this journal, our attention has been called to the fact that an operation nearly identical with it had been performed several times prior to 1874 by Dr. S. F. Forbes, of Toledo, Ohio, and the operation fully described by him in a paper read at the annual Meeting of the Ohio State Medical Society in 1874. The report was published in the Transactions of the Society for that year, illustrated by a cut; and to do justice to Dr. Forbes we renew attention to his work by making the following quotations from his paper. He describes his operation as follows:

"The flaps being made as in Chopart's operation, that is, by an anterior and posterior flap, one horn of which should commence on the inner side of the foot opposite the tubercle of the scaphoid bone, and the other terminate on the outer border or tubercle of the cuboid, and the flaps, being well reflected back, the knife, a stout, straight bistoury, should be entered between the scaphoid behind and the internal cuneiform bone in front, and carried outward between the cuneiform and the scaphoid until the cuboid is reached. Twisting the foot well outward with the left hand of the operator will facilitate the movement of the knife along the articulations mentioned. Having arrived at the cuboid the knife should give place to the saw, when the cuboid should be sawn squarely across, and the operation is completed. Should any difficulty be experienced in passing the knife along the external cuneiform the saw can at once be resorted to, and any portion of this bone which may be left in the stump can readily he dissected out. * * *

"By examining the bones of the foot it will be seen that where the scaphoid and a portion of the cuboid is left in the stump (as in this operation I am describing) each bone has a bold prominence or tubercle on its under surface which is of great service to the patient in walking ever after, a point not to be lost sight of by the surgeon."

After describing certain items of after-treatment and modes of dressing, Dr. Forbes sums up the results and advantages of his operation as follows:

"There are several persons in this vicinity upon whom the operation I have spoken of has been performed, when wearing an ordinary shoe with the front filled with cork, whose gait and carriage are so steady that it would be quite impossible for even a surgeon to say upon which limb the operation had been performed. These persons engage in railroading, farming, etc., without crutch or cane, and with so little inconvenience, apparently, as not to notice they have suffered any loss.

"The points I seek to make in this paper are, that I propose an operation which is easier of execution than any other recognized amputation through the tarsus, that the stump resulting is as good as that left after Hey's operation, aud that by reason of leaving the tubercles of the scaphoid and cuboid bones it

is always better than the stump left after Chopart's operation; further, that the bony column behind the cuneiform bones should never be sacrificed to the demands of coverings except in cases of imperative necessity; and, lastly, that upon the treatment after the operation depends in a great degree the future usefulness of the limb."

The critical reader will observe that Drs. Forbes and Milroy both separate the scaphoid from the cuneiform bones, the former completes the operation by sawing directly through the cuboid, while the latter disarticulates it.

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## The Treatment of Spinal Caries.

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The treatment of spinal caries may be divided into constitutional and local. The former includes the improvement of the general health and hygienic surroundings, a generous diet, with the exhibition of tonics and alteratives, such as syrupus ferri iodidi, lacto-phosphate of lime, cod liver oil, hypophosphites of lime and soda, with strychnia, etc. Recumbency is to be enjoined during the acute stage, with or without extension. In very young children the "stehbett," of Phelps, or an ordinary fracture-box containing a pillow, will fulfill all the indications. If these become intolerable, after the accurate application of a spine-brace, the child, if old enough, should be encouraged to walk with assistance or be allowed to go about on all-four after the plan of the Alaska Indians, who doubtless have copied it from the lower animals, in whom we are told vertebral caries does not occur. Davy suggest that caries "is possibly one of the penalties we pay for walking in the upright position," while Albrecht assumes that the upright position is the chief cause.

The local treatment is divided into mechanical and surgical. Local applications —such as counter irritation, heat, cold, etc. —are of greatest service where secondary lesions of the nervous system exist.

If the cases are diagnosticated early, their cure can be effected without deformity and with perfect flexibility, but as deformity has, in the majority of cases, occurred before the surgeon is consulted, all that can be accomplished by mechanical treatment is the fulfilment of the three indications:

1. To support the diseased spine.
2. To removed the superincumbent weight.
3. To prevent increase of deformity.

The machines and appliances for the treatment of caries of the spine are innumerable, but they can all be classed in two groups: (*a*) the fixed jacket, of plaster-of-Paris and its modifications is silicate of soda, poro-plastic felt, leather, woven-wire, paper, bamboo, etc.; (*b*) the spine-brace. The plaster-of-Paris jacket filled a long-felt want, and too much cannot be said in praise of the illustrious surgeon who popularized this useful appliance. The spine-brace of Dr. Taylor—the antero-posterior leverage spinal apparatus—has in my hands proved more satisfactory to the patient, has certain advantages which the other does not possess, and admits of frequent re-adjustment. For all cases of disease above the mid-dorsal region (6th dorsal vertebra) a chin-rest should be used to remove the weight of the head and neck.

The brace should always be applied with the patient lying prone on his face, in which position the spine is straightened out as much above and below the seat of deformity as if the patient were suspended. It is now recognized that the deformity itself cannot be straightened. In fact, attempts to accomplish this have been followed by immediate paraplegia and even death.

The surgical treatment of spinal caries is yet in its infancy. It has been the habit of surgeons to treat the abscesses expectantly, to allow them to open spontaneously, to aspirate, or incise, and then allow them to close. These methods in many cases did well, but of late there is a growing tendency to do something in an operative way. Evacuation and hyper-distention of the cavity with various antiseptic fluids has been much practised (Wood, Israel, Agnew, Treves, Dollinger and others) but the operation has not fulfilled what was anticipated from it, and Demours

and Demoulin have recorded a death from it.

Under strict antiseptic precautions openings and counter openings with insertion of drainage tubes have been tried, and some surgeons have freely laid the abscess cavities open, and thoroughly curetted the walls.

Dr. Rupprecht, of Dresden, who four years ago was an ardent advocate of this heroic plan of treatment, informed me last summer that about one-half of the patients subjected to the treatment died of tuberculosis, the other half recovered, and that he had abandoned it. This is not as favorable as the experience at Volkmann's klinik, where 20 patients died of tuberculosis subsequently, and in in 23 the abscesses healed.

At present there is a desire on the part of surgeons to treat abscesses and sequestra of spinal caries just as in other parts. Dr. H.L. Taylor, of Cincinnati, has shown anatomically that "the bodies of all the vertebræ are accessible to the surgeon," and "that there is little danger of opening the pleural cavity;" and Dr. Thomas Lafflin suggested about the same time before the Royal Academy of Medicine in Ireland that this operation (sequestrotomy) should be extended to all the dorsal vertebræ. Doubtless these advances are all in the right direction and promise much, but it has occurred to me that the rule should be observed to operate in hospital cases where the disease is progressing in spite of appropriate treatment, but to avoid operation as long as possible in private practice, because in the latter patients are more apt to recover without operation.

The most common complication (aside from abscess)is paraplegia, and it is encouraging to know that so many recover from this distressing symptom. Taylor and Lovett report out of 19 cases that 17 patients recovered; 1 recovered partly, and 1 remained paralyzed. Of 38 cases reported by Sayre either partly or completely paralyzed, 34 patients have recovered and 4 remain under treatment. The treatment consists in the application of a spinal support and in placing the patient in a recumbent position, with in some cases the administration of large doses of iodide of patassium, as suggested by Gibney. These are tolerated even by children to a remarkable degree, but Ridlon declares that "he (had used iodide of potassium and) had been convinced that it produced no effect upon the paralyzed unless there be reason to believe that hereditary syphilis is present;" and this has been my experience also.

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## Treatment of Chronic Ulcers of the Leg.

In the year 1853 or 1854 I saw an article published in one of the medical journals of the period, and written by Dr. Edward Parker, of Poughkeepsie, upon the treatment of these ulcers of the legs. His method was: Melt in a vessel a quantity, sufficient for one dressing, of the best quality of diachylon plaster; when thoroughly melted, spread it upon a piece of cotton cloth or muslin; if somewhat worn, and thus more pliable, the better. It should be spread evenly and sufficiently thick to cover the entire surface, then cut into strips of two inches or two inches and a half in breadth, and sufficiently long to reach around the leg or foot and lap about an inch. Apply these strips, beginning at the toes, around the foot and leg, allowing each strip to lap over the edge of the one below slightly, until the ulcers and all of the diseased tissue are completely covered. The pressure should be uniform, or perhaps somewhat tighter around the foot and ankle than above. After the plaster bandage has been applied, a cotton roller-bandage should be applied over it, and should extend to the knee. If the discharge is profuse and the ulcers are large, the dressings should be applied at first every day, after thoroughly washing and cleansing the ulcers. I generally cover the ulcers with equal parts of iodoform and Fuller's earth before applying the bandages. After the ulcers begin to heal by filling up with healthy granulations, and the discharge diminishes, it is not necessary to renew the dressings so often. Since adopting the foregoing method of treating chronic ulcers of the legs, of course excluding those compli-

cated with diseased bone, scurvy and specific taint, I have succeeded without a single failure, no matter how long-standing the ulcers or extensive the destruction of soft parts may have been. The ease and comfort which the dressings give to the sufferer from the start are remarkable. As soon as the veins are supported by the bandages the ulcers take on healthy action and rapidly fill with granulations, and the process of repair is immediate and continuous. The dense infiltrated tissue rapidly becomes absorbed, and the leg soon assumes its normal proportions. The diachylon plaster should be of the best quality and freshly prepared, and the bandages should be spread as they are required to be used. If they have been prepared any length of time, they lose their softness and pliability and become hard and brittle. The advantage with the diachylon plaster has over any other plaster is because it is soft, pliable and porous; permitting the perspiration or moisture of the leg and discharge from the ulcers to pass through the dressings. Every other dressing I have tried as a substitute has confined the moisture of the leg and discharge from the ulcers, exciting a troublesome inflammation of the skin and aggravating the ulcers. I presume the reason why Dr. Parker's method of treating these ulcers has not been more generally adopted by the profession is that not sufficient care has been taken to procure the right quality of plaster, or other plaster has been substituted for it.

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## Amputations for Joint Disease when Lung Tuberculosis Coexists.

1. The probabilities of a spontaneous cure or prolonged abeyance of a tubercular bone or joint trouble, as a result of expectant and palliative treatment—*e. g.*, improved hygiene and counter-irritation—is much greater in children than in adults.

2. The probability of the presence or early development of lung tuberculosis in case of tubercular bone and joint affections is much greater in adults than in children.

3. Incomplete operations, as drainage and irrigation of joints, and resections in which all of the diseased tissue is not removed, are less likely to be followed by ultimate good results in adults than in children.

4. Operative interference of a radical character is justifiable at an earlier date in the history of a bone or joint tubercular affection in an adult than in a child.

5. When a lung tuberculosis is present, and an operation for the relief of a coexisting bone or joint affection is indicated, as the result of such operation, the lung affection, while in some cases uninfluenced, is more frequently temporarily checked in its progress, and in some instances is apparently entirely removed.

6. Local relapse after an operation for an osteo-arthritic tubercular disease, lung tuberculosis existing, is exclusively conditioned upon incompleteness of the operation—the fact that somewhere tubercular tissue escaped removal—and not upon any influence exerted by the lung affection.

7. In any case of osteo-arthritic tuberculosis demanding operation, in which a doubt exists as to the possibility of removing absolutely all the diseased tissue by the more conservative methods of arthrectomy or excision, the coexistence of lung tuberculosis would be a circumstance that would add weight to the reasons for having recourse to the more radical operation of amputation.

8. After an amputation in perfectly healthy parts, as prompt healing may be expected in persons suffering from lung tuberculosis as after such an operation in a healthy person. Relapses at the stump do not occur even in persons with advanced lung disease.

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## The Mechanical Treatment for Congenital Cleft Palate.

My studies and experiments have induced me to settle upon the following device, which consists of a gold or hard rubber plate, covering the roof of the mouth down to the junction of the hard and soft palates; from this

point the artificial velum extends back and downward, restoring the symmetry of the palatal surface by bridging across and lying upon the muscles of each side.

The distal surface, or that portion coming in contact with the pharyngeal wall, is quite broad and so constructed as to articulate perfectly with this surface, while the constrictor muscle contracts and closes around it on a semicircle.

This is the Seurson principle, and the main ideas I take from that appliance.

The velum is of hard rubber, gold or platinum, and much resembles a chestnut in form. It is attached to the plate with a hinge joint, thus giving free movement at the junction of the hard and soft palates. At this point there is a stop which prevents any downward pressure upon the muscles when in a relaxed condition. The bulb-like form of the velum necessitated a thickness which would naturally have made it quite heavy, and as the resultant weight would be a serious objection, I was of course desirous of overcoming the difficulty. A suggestion happily came to my relief in this way; while in a drug-store I accidentally took up a hard rubber truss made by a Philadelphia firm, discovering that the pad was made hollow.

I thereupon wrote to the manufacturers, asking them if they would inform me how they prepared the rubber in that way.

In their reply I found the method was quite simple. It was as follows:

Take the vulcanite rubber in the soft state and cut the sheets so that when joined together the desired form is given. Then a little water is dropped into the cavity, the edges are sealed, and the piece vulcanized in the usual way; the steam produced by the water inside creates sufficient pressure to keep the walls distended.

By this method the appliance was made so light that it would float when put in water.

The surrounding muscles have control over my appliance in the following way: The artificial velum bridges across the opening and lies upon the muscles of either side. With all sounds requiring the closure of the nasal passage it is thrown up by the levator muscles, there being no resistance. The thickness of the velum brings its distal surface in close apposition with the superior constrictor muscles and thereby affords in the pronunciation of the gutterals a firmer resistance to the pressure of tongue than can be obtained with a thin obturator. By the pressure of the hinge the above movements are rendered so free and easy that there is no tendency to any displacement of the plate, such as occurs with a rigid appliance.

If a nasal sound immediately follows a gutteral, the descent of the velum is rendered certain by its own weight.

To accomplish the above with a material that would be permanent was a problem very difficult of solution.

I claim the following advantages for my appliance:

1. That it is made of a permanent material.

2. That articulation can be learned with it more readily than with any other appliance.

3. That it is much easier to make. For a soft rubber appliance perfect models of both the hard and soft palates are required, as well as of the nasal portion of the soft palate; also metal moulds are essential to vulcanize each case.

I have inserted this appliance for the last eight years exclusively, and have seen no reason why I should retract my claim or change for any other method.

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## Treatment of Urethral Stricture by Electrolysis.

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Dr. Newman concludes a lecture upon this subject with the following practical rules for the performance of the operation:

1. Any good galvanic battery will do which has small elements and is steady in its action; the twenty-cell battery, carbon and zinc elements, is an excellent instrument, and particularly sufficient for the beginner.

2. The fluid for the battery ought not to be used too strong.

3. Auxiliary instruments, as galvanometer, etc., are important to the expert, but not necessary for the beginner.

4. For the positive pole a carbon electrode is used, covered with sponge, moistened with hot water and held firmly against the cutaneous surface of the patient's hand, thigh or abdomen.

5. For the absorption of the stricture, the negative pole must be used.

6. Electrode bougies are firm sounds insulated with a hard-baked mass of rubber. The extremity is a metal bulb, egg-shaped, which is the acting part in contact with the stricture.

7. The curve of the bougie is short; large curves are mistakes.

8. The plates must be immersed in the fluid before the electrodes are placed on the patient, and raised again after the electrodes have been removed.

9. All operations must begin and end while the battery is at zero, increasing and decreasing the current slowly and gradually by one cell at a time, avoiding any shock to the patient.

10. Before operating, the susceptibility of the patient to the electric current should be ascertained.

11. The problem is to absorb the stricture, not to cauterize, burn or destroy tissues.

12. Weak currents at long intervals.

13. In most cases a current of six cells, or from two and one-half to five milliamperes, will do the work, but it must be regulated according to the work to be done.

14. The seances should be at intervals not too frequent in succession.

15. The best position for the patient to assume during the operation is that which is most comfortable for himself and the operator. I prefer the erect posture, but the recumbent or others may be used.

16. Anesthetics I like to avoid; I want the patient conscious, so that he can tell how he feels.

17. Force should never be used; the bougie must be guided in the most gentle way; the electricity alone must be allowed to do the work. Avoid causing hemorrhage.

18. During one seance two electrodes or other two instruments in succession should never be used.

19. All strictures are amenable to the treatment by electrolysis.

20. Pain should never be inflicted by the use of electrolysis; therefore, it should not be applied when the urethra is in an acute or even subacute inflammatory condition.

21. The electrode should not be greased with substances which are non-conductors and would insulate.

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## A Contribution to the Study of Gun Shot Wounds.

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Dr. Nave concludes his article upon this subject as follows:

To conclude: If a man be shot through the lung, place him in a recumbent position in such a way as to favor the escape of blood; give morphia hyodermically to allay pain and relieve anxiety; apply cold to the chest; admit fresh air freely; darken the room and guard against noise and conversation; give ergot hypodermically if there be much hemorrhage. Give no stimulants and apply nothing to the wounds but small pieces of lint or cotton wetted with cold water, either pure or medicated with carbolic acid or bichloride of mercury- Frictions to the extremities may be permitted, and may be of service. By this treatment shock slowly passes away and the checking of hemorrhage is favored. If hemorrhage continues, either externally or internally (the latter must be judged of by the increasing dyspnea, the pallor of the face, the feeble pulse, and the physical signs of an effusion within the chest), enlarge the posterior opening and proceed to plug the track of the ball with styptic silk, provided that hot water or hot solution of tannin do not succeed.

I do not favor the closing of the external wound for hemorrhage under any circumstances, for the following reasons: the procedure is unsatisfactory—worse than useless, generally speaking—for the lung is compressed and a subsequent opening is rendered nec-

essary on account of threatened asphyxia; and, moveover, hemorrhage within the chest may be, in fact often is, so extensive as to prove fatal; and, further, suppose the bleeding stops from pressure of clotted blood in the pleural cavity, which explanation, in some cases at least, must be open to doubt, this blood must be gotten rid of finally, and empyema is more than probable.

My idea is that the external wound should be enlarged if necessary and be kept open so as to see just how much bleeding is going on, and after it has been allowed to go on for a reasonable time, and clotting refuses to take place and arrest the bleeding, lose no time in plugging the bullet-track before the patient dies of exhaustion. When the hemorrhage is thus controlled, the chest is left clean, and attention to drainage will render empyema very improbable as a sequel. Traumatic pneumonia must be treated on general principles, symptoms and conditions being met with appropriate remedies; the general treatment, with the exception of attention to drainage from the wounds, being very similar to that of idiopathic pneumonia.

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### One Thousand Consecutive Cases of Abdominal Section.

Mr. Lawson Tait reports a second series of one thousand consecutive cases of abdominal section, showing a diminution of the mortality from 9.2 in the first series to 5.3 in the second. He predicts that "this operation will revolutionize the obstetric art, and that in two years we shall hear no more of craniotomy (save for hydrocephalus) and evisceration, for this new method will save more lives than these proceedings do, and it is far easier of performance. It is the easiest operation in abdominal surgery, and every country practitioner ought to be able and always prepared to perform it."

He describes the operation as follows:—My method of operating is to make an incision through the middle line large enough to admit my hand, and then I pass a piece of rubber drainage-tube (without any holes in it) as a loop over the fundus uteri, and bring it down so as to encircle the cervix, taking care that it does not include a loop of intestine. I then make a single hitch and draw it tight round the cervix, so as to completely stop the circulation. I give the ends of the tube to an assistant, who keeps them well on the strain, so as to prevent the loose knot from slipping, the reason of this being that should there be any bleeding and any necessity for further contriction, I could secure this in a moment, without undoing any knot, and the simplicity of this method greatly commends it. I then make a small opening in the uterus, and enlarge it by tearing with my two forefingers, seize the child by a foot and remove it. I then remove the placenta, and by that time the uterus has completely contracted, and is easily drawn through the wound in the abdominal wall. The constricting tube will now probably require to be tightened, and the second hitch of the knot may be put on at the same time, and the work is practically done. Stuff a few sponges in the wound to keep the cavity clear of blood, and pass the knitting-needles through the flattened tube and through the cervix, and in this simple way a clamp of the most efficient kind is at once made. The uterus is removed about three-quarters of an inch above the rubber tube. The usual stitches are put in, the wound closed round the stump, which, of course, is brought to the lower part of the opening, and then the stump is dressed with perchloride of iron in the usual way.

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## ORIGINAL ARTICLES.

### PRIMARY SARCOMA OF THE LUNG.

BY A. F. BOCK, M. D., ST. LOUIS, MO.

On Septembe 13, 1888, I was called to see Bertha F., aged 5 years, of German parentage. Family history exceptionally good; both parents strong and healthy. Patient had four sisters and one brother, all healthy. Grand parents still living, with the exception of the maternal grand mother, who died about two years ago of chronic senile gangrene.

According to the mother's statement the child had been ill since about the 20th of July last, when she was taken with a high fever (105° F.) and complained of severe pain in her left side, which continued in a greater or less degree of severity until the patient died. As the fever yielded to quinine it was no doubt of malarial origin. While under my observation there was no increase of temperature, no cough or expectoration. The right half of the body was constantly bathed in perspiration, the left always dry. There was very little desire for food, but no difficulty in swallowing; sleep was very much disturbed by dyspnoea; pulse ranged between 95 and 110.

Previous to July the child had enjoyed good health with the exception of occasional slight ailments.

Inspection showed the left thorax considerab'y increased in size, the intercostal spaces not flattened but stretched, edema very slight. No movements of the affected side on inspiration or expiration. There was a fulness in the epigastric region as if the diaphragm were thrust downward and forward. The superficial veins over the left thorax, face and neck were distended. Emaciation of the whole body very marked. Percussion sound was flat over the entire area of the left lung, and auscultation of this side showed total absence of all respiratory sounds. Heart sounds and beat were to the right of the sternum, below the nipple, somewhat accelerated and weak, but otherwise normal. Palpitation showed loss of vocal thrill.

The history, symptoms and physical signs in this case coincided so clearly with those of empyema that Drs. Mulhall and Ostertag, who were called in consultation, concurred in the opinion that the phenomena which the patient exhibited could only be due to purulent effusion in the pleural cavity.

Two days previous to calling Dr. Mulhall in consultation, I introduced a needle in the seventh intercostal space, a little in front of the axilliary line, drawing off only a small quantity of what seemed to be sero-purulent fluid.

In order to allay the unmanageable struggles of the child a few whiffs of chloroform were administered, but this was soon abandoned on account of the alarming symptoms of heart failure which set in. No further attempts at tapping were made that day. Two days later with Drs. Mulhall and Ostertag present, two more punctures were made with the same result. As the point of the needle was perfectly movable while in the chest, it was thought that the contents of the cavity were too thick to pass through the needle. While considering for a moment the propriety of making an incision through the thoracic wall, the child suddenly became cyanotic, struggled for breath, and in less than a quarter of an hour expired, all efforts at resuscitation proving fruitless.

A post-mortem was held twenty-four hours later. On opening the thorax the heart was found pushed over to the right side, beyond the right margin of the sternum. The pericardium contained a small quantity of serum. The entire thoracic cavity of the left side was occupied by a white, moderately soft mass, in which no distinct lung structure could be seen. The left bronchus was entirely obliterated. The heart, the right lung, the spleen and the liver showed no sign of disease or secondary degeneration. The neighboring limphatic glands were not enlarged nor otherwise diseased. The tumor was easily removed as there were no adhesions, its only attachment being a cord-like pedicle, about the size of a little finger, at the point where the root of the lung was. This pedicle contained blood vessels which nourished the tumor.

The tumor weighed three pounds, three and one-half ounces, was six and one-half inches long, seven inches broad, and sixteen and one-half inches in circumferrence.

Dr. L. Bremer, of St. Louis, to whom the tumor was sent for microscopical examination, made the following report: "The tumor is oval shaped, and has the size and form of the human brain minus the cerebellum. A longitudinal median incision makes the resemblance to the two hemispheres a very close one. Its color and consistence is that of

brain substance, thus representing on coarse inspection the class of tumors termed encephaloid. Minute examination with the microscope, however, shows that though a malignant tumor, it is not an epcephaloid, if by this name the soft and rapidly growing variety of carcinoma is understood. The surface of the tumor is uneven, recalling the convolutions and depressions of a brain. Sections of the tumor reveal in some places a homogeneous white substance; in others it looks marbled, owing to many hemorrhages which have taken place. These hemorrhages have also caused many more or less circumscribed softened spots throughout the tumor. An enveloping mass varying between one-half and one line in thickness, and of apparently denser existence, surrounds the tumor and corresponds to the visceral layer of the pleura.

Thin sections of the tumor examined under the microscope show circular and spindle-shaped bodies of considerable size, besides flat globules of variable diameters. Stained with borax carmine, and examined in glycerine, the spindle-cells become more manifest, and it is now clear that the object under examination is a large spindle-celled sarcoma undergoing fatty degeneration. A specimen stained in the same manner, but examined after dehydration, in oil of cloves and canada-balsam, exhibits large oblong and round nuclei (the latter being transverse sections of the former) with very little more or less homogeneous or slightly fibrilar basis substance.

Cases of primary spindle-celled sarcoma of the lung, it seems, are very rare. Other varieties of carcinomata, adenomata, fibromata, osteomata and enchondromata, seem to be of somewhat more frequent occurrence as primary tumors of this organ. As a rule all tumors of the lung are secondary growths."

Surgeon-General J. S. Billings, of Washington, D.C., says: "The only distinctly recognized case of primary spindle celled sarcoma of the lung of which I have any note, is that reported by Chiari, in the Wiener Medizinische Presse, 1878, volume XIX, page 112. In the transactions of the Pathological Society of London, volume IX, 1858, page 31, Dr. Wilkes reports a case of primary tumor of the lung, composed of long nucleated fibers lying side by side, which was probably of the same character. Also in the Revue Medicale de l'Est, volume IV, 1875, page 119, Dr. E. DeMange reports a case of primitive sarcoma of the lung, with thrombosis of the pulmonary artery. The tissue of the tumor was composed of fusiform cells with long prolongations forming what he calls a fasciculated sarcoma, which I take to be the same thing as a spindle-celled sarcoma."

The best authenticated case of primary sarcoma of the lung is that of Dr. L. Ruetimeyer, published in the Schweitzer Aerztel, Corresp. Blatt, 1886, No. 7. He too, had mistaken the condition for empyema, and it was the dry tapping that led him to suspect a tumor. Only the lower lobe of the left lung, however, was changed into a sarcomatous mass.

To distinguish such tumors of the lung from empyema, for which they seem to be universally mistaken, there is, I believe, no certain sign, except that elicited by the exploring needle, which must, however, not be too small, and must be inserted at various points in the intercostal spaces and to a considerable depth. The exuding fluid should be subjected to a microscopical examination which may possibly reveal the nature of the disease. In my case, owing to an accident, a microscopical examination of the first fluid drawn was not made.

The principal diagnostic signs in these cases are, the peculiarly even distension of that side of the thorax-barrel-shaped; the stretched but not bulging intercostal spaces; the passive dilation of the superficial veins of the affected side; the greater resistance felt by the finger on percussion; and the total absence of respiratory sounds on the effected side.

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The South Kansas Medical Society meets at Wichita, May 14. There are eighteen papers upon the programme. If they are all read there will be no time left for discussion of them.

## EARLY RECOGNITION AND TREATMENT OF MALIGNANT DISEASE OF THE UTERUS.

BY DR. GEORGE ERETY SHOEMAKER.

Read before the Philadelphia County Medical Society.

In considering this subject two general standpoints present themselves; that of the pathologist and that of the clinician. While of course both are interdependent and of great importance, it is proposed in these remarks to give special attention to the recognition of cancer by the means available to the practical physician who is called upon to make up his mind during the life of the patient what the trouble is and what is to be done for that patient's good.

The importance of the subject, since every physician finds a large part of his practice to be among women, is shown by the mere statement that out of 4,600 cases of diseases of women reported by Emmett, 133 from all classes of society had malignant disease of the uterus, or 2.45 per cent.

As in the case of malignant tumors of other portions of the body, their existence in the uterus in advanced stages is easy to determine, though some obscurity as to the variety may remain. The peculiar sharp, inconstant, lancinating pain in abdomen, back and thighs; the discharge of watery fluid with a characteristic odor; the presence of hemorrhage and cachexia; form a group of symptoms which are conclusive almost without an examination; while even the practitioner who almost never makes a vaginal exploration would not fail to recognize an advanced growth on touch and inspection.

Whatever be the nature of the growth, the immobile uterus, the cervix large, hard and patulous; the abundant nodule, hard, inelastic, immovable; the extensive ulceration, the probable presence of exuberant granulations if not cauliflower excrescences, with their friable, easily bleeding characters, will be at once recognized.

But it is in precisely these far advanced cases that diagnosis is least important, for the palliation from operative treatment is greatly less than in earlier stages. The time to diagnose cancer is in the very beginning, when thorough removal can be made, and it is just here that the average practitioner is at fault. Perhaps through lack of confidence in his own powers of diagnosis, perhaps from a general impression that no benefit would be derived from treatment, perhaps from a personal distate for such examinations and long disuse of them except before and during labor (I say before and during labor, not after labor, for it would seem, as far as the writer's observation goes, not to be a habit among practioners to satisfy themselves, by systematic examination at the end of every puerperal period, that no serious lacerations or displacements or left to produce future trouble), from whatever cause it may be, cases of malignant disease of the uterus are too often allowed to drift along through a most important period unrecognized. Even if not a specialist, if a practitioner will take the trouble to do his very best he can learn much in such cases. Let him take plenty of time, go to the trouble of securing a good light so that he can see clearly, let him see the case on his office chair if possible, at any rate not with the hips half buried in a bed, placed as far as possible from a heavily curtained window.

It is, however, true that in a few cases malignant disease will make considerable advance without giving rise to symptoms enough to bring about an investigation.

Early Symptoms.—Bleeding in most cases first attracts attention. If menstruating the woman will lose more at her periods or may bleed between them, as she does from many other causes. If she has definitely ceased to menstruate, the occurrence of hemorrhage, even though slight, should always lead to immediate careful examination; for while the cause is more likely to be fungous endometritis or a fibroid or polypoid tumor, evidence of cancer may be found. It is not a trifling matter to suggest that the results of this examination should be put upon record, with

the date, even though apparently negative. The discharge is irregular, increased by exertion, and may consist either of bright blood which will clot, or of a bloody watery fluid, with or without odor. The patient may at the same time have a free leucorrhea, of independent origin.

The nature of the disease may not be suspected by the woman, who may present every appearance of florid health, and whose previous life may have been more than usually free from disease. Usually, however, there will be some evidence of impaired vitaltty and loss of tone; though a true cachexia, with its dead-white, or sallow, or straw hue of the skin, its pinched and peculiar expression, belongs to a later period of the disease, when there is considerable constitutional change.

The very earliest symptom is in some cases pain, while others will pass through all stages of the disease and remain remarkably free from it.

The writer has in mind a case of his own, where the diagnosis of advanced epithelioma does not admit of question, and where pain has never occurred in any considerable degree.

In another case under his observation, but slight pain is present and that not characteristic.

It is said to be generally more severe in epithelioma than in the interstitial forms of disease, and more apt to be severe when the infiltration passes beyond the cervix to the body of the organ. Infiltration of surrounding pelvic tissues involves pressure on sacral nerves, which occasions severe pain in one or both hips and down the backs of the thighs; but the pain may come from nipping of terminal fibers of the sympathetic system within the cervix or body of the organ. Persistent pelvic pain, especially if lancinating and extending to the loins and the back of the thighs, should excite suspicion of malignant growth, particularly in women near the meno. pause. The offensive watery discharge speaks of disorganization of tissue and is not often a very early symptom, though characteristic when found. Offensive leucorrhea from other causes is not uncommon, but there is no smell like a cancer smell. The absence of odor is by no mesns indicative of the absence of disease, and this is true of every other single symptom.

Thus far there is nothing to suggest the variety of growth which may be present. Examination, however, reveals more exactly the condition of affairs.

The malignant growths which may involve the uterus are quite variously classified; but may be given as fallows in their order of frequency:

Epithelioma;

Encephaloid or "soft" cancer;

Sarcoma;

While scirrhus and colloid cancer (or as it is now classified by some writers, myxo-sarcoma) may be described as rare.

Signs.—In epithelioma, the finger in the vagina usually finds the cervix harder than normal even in early stages of the disease. The growth begins either in the mucous membrane lining the cervical canal, or on the vaginal portion of the cervix. If the former, the only fact discoverable by the finger will be an enlargement and hardening of the neck, while the os is enlarged and irregular. Ocular inspection may show nodules within the cervical canal, perhaps covered by an ashy deposit. Their color ranges from pale yellow to dark red, according to the amount of blood infiltration. Their hardness is quite characteristic. The mucous membrane is bound down and immovable. Goodell has suggested that in such a case the introduction of a sponge tent will materially aid the diagnosis. Says he,

"If the cervix soften down, the os dilate, and the mucous membrane become movable under the expansion of the tent, the disease is probably a benign one. If, on the other hand, the cervix remain hard, its mucous covering immovable, and the os unyielding, the suspicion of malignancy will be confirmed." (*Lessons in Gynecology*, p. 224.)

The uterus meanwhile may remain movable, and scarcely, if at all, enlarged, as the disease extends; while, as a rule, advancing

no higher than the cervical canal, a rough, friable mass occupies that passage, which, breaking down in the centre, may leave the cervix excavated, so as to form a large cavity extending to the internal os. The edges of this cavity are often sharp, hard and irregular. Pain may still be almost entirely absent.

When beginning at the vaginal portion of the cervix, externally, as it were, the epithelioma assumes one of two forms, either appearing as an ulcer with irregular edges and an excavated base covered with ashy-colored detritus, or else taking the form of a fungous mass. This mass with friable, rough granular feel may be spread out over the cervix, or spring from it as a pedunculated outgrowth, forming the so-called cauliflower excrescence. This form when present is sometimes very easily recognized by the fact that it feels as though portions could be broken off. A polypus is usually softer and smoother, and a papilloma is less fragile, less irregular, and may be enveloped by a continuous epithelial coating.

Two cases, seen for the first time within a few weeks of each other, may be cited in illustration; one of fungus-like edithelioma, and the other of fibrous polypus. Both women were beyond the menopause a few years. Both had some bladder irritation and pelvic uneasiness, but no pain. Both had borne children. Both had leucorrhoea. One of them had seen a little blood irregularly, and was palid. In both, the only abnormal structure discoverable by the finger was a round pedunculated growth of about the size of a walnut, which grew from the cervix. The pedicle in each case was about half an inch through, was distinct. like the stem of a toadstool, but shorter; while the body of the growth in each case was roughened and firm.

Diagnosis of malignancy was made in one case at once, reliance being placed on the following points: The uterus was not normally movable, and was slightly enlarged, as made out bimanually; the pedicle grew directly out of the lower lip of the cervix, and above it could be felt the os distinctly. No other growth would have been situated here. A polypus or a papilloma of that shape would have come out of the os. The whole tumor except the pedicle was covered by nodules the size of those on a blackberry, and was not smooth to the touch. No impression of flexibility or elasticcity was conveyed to the finger,the whole growth having that indescribable dense feeling which is easily recognized as belonging to this class of growths.

At the operation, as soon as the lower lip was cut away with the scissors, and the cavity of the cervix thereby opened up, it was found filled with very firm cancerous nodules of the size of a buckshot, or larger. This, of course, confirmed the diagnosis, but could not previously have been determined, for the os was not dilated at all.

In the other case, however, though the general resemblance was so great, the diagnosis of benion tumor rested on the fact that the pedicle, springing from somewhere within the uterus, came out of the os and expanded as a perfectly smooth stem, covered by smooth membrane, and giving the impression of a tough, homogeneous fibrous structure, which would bend and not break. The body of the growth was resilient,though firm, and indented on the lowest surface like a papilloma. The symptoms did not suggest malignancy, though they did not exclude it. They never do.

But it is in the very early diagnosis of epithelioma that we are most concerned. Though doubted by some writers, as Byford and others, there is very strong evidence to be brought forward in favor of the local, and, as it were, traumatic origin of epithelioma. It seems in many instances to be a perverted effort of nature to repair an injury, as has been said by Emmet, and this gives a much greater significance to unhealed and irritated lacerations. Whether the theory of traumatic origin be accepted or not, it is not to be ignored that a man who has given as much attention to diseases of the cervix as has Emmet, should be able to say that he had never seen a case of epthelial cancer in a woman who had not at some time been impregnated.

Hofmeir, however, in his statistics of cancer of the uterus, speaks of 39 nulliparae among a total of 812 cases.

The tendency of cicatrices to become the seat of morbid growths is well known. The frequency of unrepaired lacerations, and the profound alterations of structure which often follow them, have lead to careful microscopical study of the tissues which have been removed in the operations for repair, with the result of finding, as reported by Cushing, of Boston (*Annals of Gynecology*, April and June, 1888, etc.) to the Ninth International Medical Congress, several cases of undoubted cancer, which could not have been diagnosed from glandular hyperplasia and erosion by either sight or touch alone. This author has urged with great pertinency, that some cases of bleeding erosions in women of fifty, or thereabouts, are undoubtedly beginning epitheliomata, and as the removal of such surfaces is a slight operation, it is worth doing, and may be of the greatest importance. (*Annals of Gyn.*, June, 1888, preliminary article.) This he urges without admitting, as has been claimed by Ruge and Veit, that the transition stages of erosions into epitheliomas, and we cannot always tell which. It is unreasonable to say that every erosion should be removed by the knife or scissors, for we know that most of them can be cured by proper treatment; but it seems justifiable, to say the least, to remove thoroughly all those which are stubborn in resisting well-directed treatment.

In doubtful cases, much light may be obtained by removing a wedge-shaped piece for microscopical examination; for while malignancy cannot thus be excluded, it may be found. It cannot thus be excluded, for it has been shown that cases showing clinically evident signs of malignancy, and so diagnosed by excellent authority, still have failed to show typical characters under the microscope. (Cushing, *loc cit.*)

No harm is done by this excision of a piece. The bleeding would be readily controlled by an alum tampon properly inserted at the time, and if the disease should prove to be malignant under the microscope, operation would immediately follow.

Encephaloid Cancer.—The early diagnosis of this disease is rarely, if ever, made. By the time obvious changes have occurred the disease has advanced so far as to have seriously infected neighboring glands and tissues, so that no thought of surgical removal is possible. This is particularly true when the body of the uterus is first involved. The usual point of origin is near the lower end of the cervical canal in the submucous tissue. Ulceration destroys the mucous membrane, and vascular granulations appear. The whole cervix becomes hard, irregular and knotty, in a way that is simulated by no non-malignant disease. Irregular friable vegetations spring up and cover the whole lower end of the cervix. These bleed freely on being touched, and exude a watery offensive fluid, like the washings of raw beef. The further progress of the case, the infiltration of surrounding tissues and organs, the breaking down and sloughing, until all semblance of the normal configuration of parts is lost, need not be here detailed.

Sarcoma of the uterus is not often met with. Its accurate diagnosis, either early or late, is usually impossible without the microscopical examination of a piece of sufficient size to show not only characteristic cells, but their relations to surrounding tissue. Scrapings may not be sufficient. It occurs in two forms: (*a*) Circumscribed, when it strongly resembles fibroid tumor, and constitutes the class formerly known as "recurrent fibroid." (*b*) Diffuse, when it involves the whole uterus, together with surrounding tissues and organs. The cardinal points in the diagnosis of sarcoma are, rapid growth, a few months only at times; cachexia, especially significant where there has been comparatively little loss of blood; extreme pain; the presence of serum in the freely flowing blood (which is not found in non-disintegrating fibroids, but is found in carcinoma); the soft, brittle, brain like character of proliferating portions, if any can be felt. This separates it from carcinoma. Carcinoma is not so apt to form

a circumscribed tumor. But, after all, the practical point is the diagnosis of malignancy, for early removal is the rule in any form of growth.

Scirrhus and myxo-sarcoma present no early signs of individuality which need be considered here.

After all, there remain certain cases in which the early diagnosis of malignancy is practically impossible, and the decision for or against a radical operation becomes a matter of great anxiety to the physician. When the disease is not accessible at the cervix, but begins within the body of the uterus, or even at the external os, the excision of a piece for examination is not practicable in ordinary cases. One is then obliged to wait, perhaps too long, for some definite guide. Such a case has just been troubling the writer. The uterus is small and soft. Pain is slight and recent. A most intractable pruritus, of two years' standing, is due to the cervical discharge. Except for a lining membrane too dark in color, the lower part of the cervix is about normal in structure; it is excavated, and admits the whole of the first phalanx of the finger, but a peculiar laceration partly, if not wholly, accounts for its patulous condition. The lining of the uterus is smooth, but just at the internal os, beyond the point where the finger-tip stops, the curette finds little elevations, entirely too tough and gritty to make the mind easy. This patient has been closely watched and carefully studied. I shall proceed at once to remove the suspicious tissues, but the decision has not been an easy one to make.

Even later on, diagnosis may not be easy. In another case at present under the writer's care, the portion of the uterus accessible from the vagina is soft and not nodular. There is no bleeding, and no discharge, pain or other symptom which cannot be partially accounted for by a well-defined stricture of the rectum and its consequences. Bimanual examination is practically negative, since the true pelvis is choked by a smooth mass cementing in the uterus. The vaginal roof is hard, smooth, unyielding, suggesting the results of a late confinement which had inflammatory sequlæ, but the stricture helps to throw light on the case. Even this is smooth and not typically cancerous, so that the aggravating word "probable," must go down with the diagnosis of malignancy. Long since did observation show the writer that the brilliant and dogmatic diagnosis of tumors flourishes chiefly in the clinical lecture-room and in the journal reports of just completed operations.

Treatment.—This is, of course, eminently surgical. As in cancer of the breast, not every case of malignant tumor of the uterus is to be operated upon by any means. There is room for the exercise of much judgment. One fact, however, is established beyond all question; it is that years of life and great suffering may be saved by early and radical removal, especially of epitheliomas. If the operation is not thorough, life is shortened by it, except in the later stages.

If the disease is still confined to the cervix and lower uterine segment, several operations may be made. One of the best is amputation of the vaginal portion of the cervix (Schroeder so far), and then with a knife cutting out a cone-shaped piece from the body of the uterus, including the canal, following with the Paquelin cautery. This is the operation of Baker, of Boston. Emmett uses scissors, knife and curette with Simon's spoon, to shell out the diseased tissue, and then, as far as possible, draws mucous membrane over the raw surfaces by stitches. Most operators apply either the Paquelin cautery or, as recommended by Marion Sims, chloride of zinc as a caustic, after as much tissue as possible has been cut away. The dangers after such operations are from hemorrhage and septicemia, but the mortality is small. There is very strong ground for belief that the actual cautery lessens the risk of subsequent development of disease. It certainly retards it more than the knife if all is not removed. Total extirpation of the uterus is coming into prominence in this connection, and statistics are rapidly accumulating. By the use of compression forceps for the lateral vessels, instead of ligatures, the mortality of the ope-

ration has been enormously diminished in good hands, but the place of the operation in surgery of the uterus has not yet been definitely settled. There is very little to show its advantage in ultimate results over Schroeder's method of high amputation of the cervix, where the disease usually lies, especially if followed by clearing out the interior of the uterus, as advocated by Baker, of Boston. If the disease is just beninning, the safer operation is just as thorough. If the disease is further advanced, to remove the entire uterus is not to remove surrounding infected glands and tissues, and there are no statistics which show conclusively that the liability to return is less than in the other operation. On the contrary, while recent methods of total extirpation have undoubtedly greatly reduced the risk of death from the operation itself, and while as long a series as thirty without a death has been reported in one institution, the University Frauenklinik, at Berlin, yet a consideration of the after-history of these patients is strongly in favor of a partial operation.

Taking from Hoffmeier's reports, 129 operations of both varieties at this hospital as available for study, because their after-history could be traced, it is found, as stated by Lusk (American System of Gynecology, ii, p. 630), that at the end of the first year, 51 per cent of the partial cases remained well; at the end of the second year, 46 per cent, at the end of the third year, 42 per cent, at the end of the fourth year, 41.3 per cent.

Again, at the end of the first year, 63.6 per cent of the complete cases remained well; at the end of the second year, 24.1 per cent, at the end of the third year, 26 per cent; at the end of the fourth year, not one living complete case remained.

So, while brilliant operators, whose death-rate from the operation remains low, may be expected to advocate total extirpation of the uterus, it is likely that the majority of gynecologists who are more interested in the freedom from recurrence than in the operation mortality, will await the evidence of further experience, now rapidly accumulating, before giving preference to this operation.

When, at the time of discovery, the uterus is found fixed, the vaginal vault infiltrated, and evident involvement of parts which cannot be removed; it is not wise to interfere, unless there be extensive hemorrhage, extreme pain, or septicemia from absorption of necrotic material. The same rule holds here as in cancer of the breast; there is an intermediate period, between an early and a late stage, when the highest good of the patient is to be secured by letting well enough alone; correcting fetor by injections or potass. permang., creolin, or hydronaphthol, lessening hemorrhage by alum or dilute subsulphate of iron injections, maintaining the general strength as far as possible by strict attention to the problems of nourishment and good hygiene; securing sleep and comfort by chloral locally or opium by suppository, and waiting. There comes, however, a third stage, when surgical interference may be of great service. When the strength is being rapidly reduced by discharge, by severe hemorrhage, or by septicemic fever, the patient should be etherized, and the vegetations rapidly removed by curette or spoon, down to firm, if not sound tissue. A thorough application of the thermo-cautery will then not only arrest hemorrhage, and lessen the subsequent danger from it, but will check further growth for a considerable time. During the curetting bleeding will be free, but this should be carried on boldly and rapidly until the vegetations have been removed, when it will either cease or be checked by the thermo-cautery. A tampon saturated with some styptic, such as alum, should, however, always be inserted after the operation, and the vagina filled with antiseptic non-absorbent cotton or strips of gauze. This will lessen the risk from sudden hemorrhage, in the absence of the physician, and should be removed and replaced at proper intervals for several days. It is surprising how much temporary relief will follow for a while, and the existence is often made comfortable for a month or more, while the risk is very small.

For cleansing purposes in the general con-

duct of a case, an experience of a considerable number of cases in the cancer annex of the Home for Incurables, among the out patients of the University Hospital, and the St. Clements Dispensary, as well as in private practice, leads to the preference of permanganate of potash solution. It is cheap, non-poisonous, unirritating, and effective. Creolin is now on trial, so far with very satisfactory results.

Hemorrhage, if not controlled by alum, or other astringent, may often be arrested by pressure so applied by tampon as to bear directly upon surfaces, and not slide over them. If very considerable, it will call for the use of the curette and the hot iron.

For pain antipyrin has not proved very satisfactory, though not extensively tried. In one case it gave great relief to general nerve pains, but did not greatly affect the cancer pain. Cocaine is, of course, too transitory and too superficial in action.

Nothing will take the place of opium, guarded by atropia, in the relief of decided pain. Other drugs give much help in insommia and restlessness when not caused by definite pain from nerve involvement. The opium habit when at length formed, and it may by care be long deferred, is by far the less among evils. No definite improvement in the case, as a whole, has ever seemed to follow the use of drugs given for the disease itself:

A summary may be made as follows:

(*a*) Early diagnosis is all-important, and should not be deferred until gross changeshave occurred.

(*b*) Examination should follow slight suspicions from the treacherous character of the symptoms. Is not conclusive, it should be made by a trained hand.

(*c*) The microscope will sometimes detact before other means will.

(*d*) Heredity is a doubtful cause, traumatic origin very probable.

(*e*) Lacerations of the cervix, where the growths usually begin, should be repaired if causing irritation, and erosions should be cured. If erosions are stubborn, or otherwise suspicious, they should be pared off.

(*f*) In epithelioma especially, the disease is at first local, and if taken early complete immunity is secured sometimes, and always great saving of time and suffering.

1. Early, when operation should be immediate and as radical as possible, without extirpation of the uterus.

2. Intermediate, when, eradication being impossible, nothing should be done unless demanded by severe hemorrhage or extreme pain. The length of this period is indefinite, and depends on the rapidity of growth.

3. Late, when scraping and burning may be done repeatedly, to palliate symptoms and retard growth.

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Exit Codeine.—Dr. Parry's theory that codeine had some mysterious influence over diabetes has probably received its final quietus from some observations made by Professor Fraser, of Edinburgh. The chemical constitution of codeine suggests that it is only a weakened morphine in which the hydrogen of the hydroxyl is displaced by methyl.

Professor Fraser has found, by an extremely laborious clinical investigation, that codeine is a less powerful remedy in diabetes than either opium or morphine. Hydrochlorate of morphine is the best of the three; better than opium, and far better than codeine. The dose of hydrochlorate of morphine used was one grain per diem, and it seemed a matter of indifference whether the drug was given in one daily dose of one grain, or in divided doses of one-third of a grain three times a day. Fraser's observations thus fully confirm Dr. Mitchell Bruce's. The result is the more satisfactory, as codeine is three times the price of morphine.—*Med. Times.*

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The American Society of Microscopists will hold their next annual meeting in Buffalo, Aug. 20 to 23, inclusive.

WEEKLY MEDICAL REVIEW,

R. L. THOMSON, M.D., BRANSFORD LEWIS, M.D., EDITORS.

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914 LOCUST STREET, ST. LOUIS, MO.

SATURDAY, MAY 11, 1889.

## ANTIPYRESIS.

Dr. A. von Ziemssen's excellent lecture upon "Antipyresis and Antipyretic Methods of Treatment" has recently been translated into the English language and published in the March number of Wood's Medical and Surgical Monographs.

Those who have been taught and have observed, or thought they have observed, the marked efficacy of antipyresis in the treatment of febrile diseases are staggered by the recent resurrection by a few bacteriologists of the ancient theory that fever is one of the methods at the disposal of the body of resisting the advances of the germs of disease.

The rapid strides which have recently been made in bacteriological research have thrown much light upon the etiology and prevention of disease, and the investigations which are making in regard to the biologi cal behavior of disease germs, and the conditions which are capable of preventing their development and of checking or modifying their action upon the human organism, open up the prospect of a causal therapeusis.

All are acquainted with the glorious results which have followed the application of bacteriological teachings to surgical, obstetrical and gynecological practice, but so far as internal medicine is concerned, it may be affirmed that they have not as yet exerted a definite reforming influence upon its therapeusis.

Such questions as the one with which we are dealing can be decided not in the laboratory, but only by clinical experiments. Such experiments have in recent years been numerous, and "from the differeut publications it is clearly apparent that the opinion of clinicians and of physicians in regard to the importance of fever and in particular of high temperature, and the necessity of energetically cooling the body in order to depress the overheating of the blood and organs, is no longer that held, in 1860 by Brand, Jurgensen, Lubermeister and others, but that rather, indeed, in general, the extreme antipyretic views, which claimed that a lowering of the temperature was to be obtained at any price, has been relinquished; nevertheless, hydrotherapy, for other reasons than those formerly held is still valued as the principal method of treatment, and antipyretic drugs are held in high esteem as adjuvants."

The opinions of the value of antipyresis are numerous, extending from that of the extreme hydriaticists down by shallow steps to that of those who absolutely deny the influence of treatment in the mortality of typhoid fever, so that it would appear as if there were no convincing facts, and that each may treat typhoid and other febrile diseases in accordance with his own views. It would be regretable if such a state of affairs would lead to scepticism on the part of the physician, since this would necessarily lead to disastrous results in the treatment of patients. It would be especially deplorable if, after a period of active antisepsis with its excellent results, we should reject this entirely on account of the reaction in opinion. There is no doubt that the theoretical explanation of the necessity and usefulness of fever is plausible and contains much that is true. The constant recurrence of fever in case of mycotic infection speaks in favor of the view that we are here dealing with a legitimate and to a degree with a valuable reaction. Nevertheless, we are familiar with a number of febrile infectious diseases in which suitable treatment not only abates the fever, but also the infectio . Take, for example, intermittent fever, acute articular rheumatism, or the febrile attacks during the course of syphilis. Who will expect in these a salutary effect from the fever? The experiments which were formerly made with the

expectant symptomatic treatment of intermittent certainly lend no support to the view that fever is a useful phenomenon and has curative effects.

We have as yet knowledge of but few antipyretic specifics, and in the vast majority of infectious diseases we must assist ourselves by such means as experience teaches us can reduce the effects of infection, including fever, to the greatest possible degree. The analysis of the action of the antimyotic or antifebrile method of treatment is certainly one of the most important questions of the day, and is a question which can be settled only at the bedside of the patient, and physicians must not allow themselves to be disturbed from their position by theoretical deductions.

Has the antipyretic treatment of high febrile infectious diseases, and above all, of typhoid fever, exerted favorable influence on the individual case? Has it had the same influence on the totality of instances? It can be definitely stated that the course of the individual case under suitable antipyretic treatment has been more favorable and less dangerous, and again that the mortality rate of typhoid fever has fallen at least to one-half of the former rate.

With reference to the method of antipyretic treatment to be followed, much depends upon the physical and social conditions of the patients.

The cold bath treatment which has proved so successful in military hospitals in the hands of Vogl and others, is entirely too energetic for the patients of civic hospitals, who exhibit differences in age and sex, present anomalies of development and constitution, are suffering from the unhealthy manner of living, or are weakened by chronic constitutional diseases. In these the modified hydrotherapy, as practiced and advocated by Naunyn, consisting in the use of luke-warm baths, when the temperature gets above a certain point, have given results which compare most favorably with those obtained by Vogl. Finally, in private practice, where bathing is often out of the question, still milder forms of hydrotherapy, such as the pack, sprinkling and sponging, are to be used, generally combined with internal antipyretics.

In what way and to what degree are antipyretic methods of treatment able to exert a curative effect?

Considering hydrotherapy first the action of the cold and the luke-warm baths may be expressed somewhat as follows:

The bath cools the blood of the feverish patient, at first at the periphery, and next, by the circulation of the cooled blood from the skin to the interior of the body, the internal organs are affected. Whether this circulation of the cooled blood has immediate effects on the central nervous system is not proved, but from a personal experience Ziemssen believes that the desire for sleep setting in immediately after the bath, and which is its first effect, is to be laid to the cooling of the brain. Aside from the direct cooling affect comes the stimulation of the nervous system, which is the most valuable action of the cold baths. The stimulation of the sensitive nerves by the lower temperature of the bath is at once conducted centripetally, and this effects in greater or less degree all the essential nerve centers. The lowered vitality of the brain is stimulated, and from the refreshed action extends a fresher stimulation of the nerves which preside over the circulation, the respiration, the digestive process, the locomotor apparatus, etc. The result is a quiet sleep, a clear sensorium, a refreshed look, easier movements and desire for food.

As regards the digestive functions, not only is there increased desire for food, but also what is ingested is better digested; this speaks strongly for increased secretion of the gastric juice, which can only be laid to a betterment in the innervation. This improvement in nourishment, in case of protracted fever, is of the greatest value.

The circulatory apparatus is affected in numerous ways—through reflex action, through the direct stimulation of the heart muscle by the cooled blood circulating through it.

The peripheral irritation leads to deeper and more prolonged inspiration. The improved innervation leads to reflex cough

whereby the stagnant secretion is expelled. Thereby the tendency to bronchial obstruction, to atelectasis, to catarrhal pneumonia, is better checked than by the practice of turning the patient on his side from time to time.

The secretions of the body, urine, saliva, perspiration, tears, are increased by the bath. The tongue becomes moist, the eye clear, the surface soft. The trophic center is also favorably influenced.

As to the utility of antipyretic drugs the opinions of authorities differ widely, and latterly the tendency has been to dispense with them more and more in case of the infectious diseases. This opposition is, however, carried to an extreme. The administration of antipyretics in private practice has perhaps been too common, seeing that every febrile rise has been deemed an indication for the administration of quinine, etc.

The value of an internal remedy, however, should not be depreciated on account of abuse. The fact that year by year the number of antipyretic agents increases, as also their quality, speaks well for their use. The recently discovered agents are better than the earlier, not alone in that the antipyretic action is more certain and with less likelihood of untoward sequelæ, but also in that they are effective in much lower dose. Antipyretic agents are, according to Ziemssen's personal experience, very valuable adjuncts to treatment and are indispensable to the physician.

As to the value of the different agents, antipyrin, thallin and antifebrin are superior to the earlier agents, quinine, salicylic acid, hydrochloride and others. Antifebrin is not alone superior to thallin and antipyrin in that it is safer and almost entirely unlikely to be followed by unpleasant sequelæ, but also on account of the small efficient dose and the low price.

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## Salicylic Acid in Chronic Tubercular Joint Disease.

A number of cases are reported in the *Boston Med. and Surg. Jour.* by Dr. R. W. Lovett, in which, both acute and chronic disease of the large joints were markely benefitted by the internal administration of salicylate of soda. He says the use of this drug in these cases is purely empirical, as what is known of it, and its physiological action, would give no hint to this use of it.

Most of the patients, in the list reported, were suffering from a joint affection that was clearly tubercular in type.

Dr. Lovett found that salicylate of soda controled to a marked degree the acutely sensitive condition that is often so distressing in hip and knee disease. Under its use the swelling of the joints was greatly lessened and the general condition of the patients much improved. Dr. Lovett does not believe that this remedy is indicated in the ordinary routine treatment of hip disease where pain and sensitiveness are absent. In the cases reported the drug was given in from five to ten grain doses three or four times a day. Dr. L. summarized the following conclusions:

"Salicylic acid in large doses is useful as an aid to the mechanical treatment of chronic tuberculous joint diseases, not in routine conditions, but—

1. When night cries are present.
2. When the diseased joint is very painful and sensitive to jar.
3. When vomiting and general discomfort are associated with an increase in the local disease.

That relief from pain, and diminished sensitiveness follow at once, as quickly as in acute articular rheumatism, and that the drug should be given in as large doses as for that affection until the pain is relieved or the physiological effect is produced.

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## Antipyrin Poisoning.

Within the past year a number of cases have been reported in medical journals in which grave symptoms of poisoning have followed the administration of antipyrin, and still the use of this drug as a household remedy is sanctioned by many medical men. Dr. Wm. P. Northrup, of New York adds

the report of another case in the *Medical News*, which clearly proves that the drug should be given by physicians only, and with great caution, to those on whom its effects are not known.

In Dr. Northrup's case the patient, a woman, 40 years of age, took fifteen grains of antipyrin with half a tablespoonful of whiskey, for headache. Immediately afterward she felt queer; had a sense of "smelling pepper"; sneezed a dozen times in rapid succession, which was followed by an urgent desire to defecate; she arose from her bed, fell unconscious upon the floor. On his arrival Dr. N. found the patient lying on the bed, her eyes closed, countenance pale leaden, "jaw dropped," no pulse at the wrist, no sensitiveness to conjunctiva, and in so thorough a condition of syncope that no amount of irritation aroused her. She remained in this condition near half an hour. A hypodermic injection of twenty minims of whiskey repeated after a short time caused her to open her eyes with a wild staring look. Following this she began to vomit, retching for more than an hour. At the end of a month she had fully recovered from the effects of the treatment.

Her periodic headaches were not relieved, and through the importunities of her friends, she was induced to take five grains of antipyrin with a tablespoonful of whiskey in a little water. Immediately afterward she began to "feel queer" and a few minutes later Dr. Northrup found her lying on a sofa with her head raised; this time her face flushed a deep crimson; her neck, wrists and hands covered with nettle-rash; tearing the clothing from her throat and chest; sighing and gasping for breath, and with an anxious countenance. At the end of an hour the severity of the symptoms began to subside.

It is plain that this patient was peculiarly susceptible to the poisonous influence of antipyrin, but since it is only by experiment that we can learn who has this idiosyncracy and who has not, the only safe plan to pursue is always to give the first doses of the drug in small quantity.

## Compulsory Vaccination.

Simpson and Marshall, of London, have published an address delivered by Dr. Wm. Woodward (*Brit. Med. Jour.*) in which he laid much stress upon the superiority of public over private vaccination. He quoted from the reports of the Medical Officer of the Local Government Board that about half the vaccinations in London are done in public stations, and the mortality from small-pox is less among these than among the children of the wealthy whose sanitary surroundings are much better.

It seems strange that in the face of all the statistics, that have been accumulated, showing the efficacy of vaccination as a protection against one of the worst scourges of which history gives an account, that men can still be found strenuously opposing vaccination as a "useless poisoning of the system."

In England a member of the House of Commons has been so enthusiastic as an anti-vaccinationist that the Government has decided to appoint a Royal Commission to inquire into the workings of the Vaccination Acts. The report of this Commission will be exhaustive and will unquestionably do much good toward making the practice of vaccination more nearly universal than it now is.

Boards of Health and the establishment of national and local quarantine stations have done much to protect us against the introduction into our midst of contagious diseases, but we must not lose sight of the fact that not a year passes that we do not have cases in our own city, and were it not for vaccination, large numbers of our population would be swept away by the disease. Only last year the disease was epidemic in a small town in our state.

Our present mode of obtaining vaccine is so perfect that it is scarcely among the possibilities that it will produce any other disease than cow-pox.

The fact should not be lost sight of that one cicatrix may not be evidence of perfect protection, and for this reason patients should be revaccinated every few years.

## The Value of Electro-Therapeutics in Lesions of the Optic Nerve.

A short review of papers written upon this subject is given by Dr. Bull in the *N. Y. Med. Jour.*, who draws the conclusion from his study of these papers, and from his own experience, that the only condition of the optic nerve that is susceptible of improvement by galvanism is traumatic anesthesia of the optic nerve and retina, unaccompanied by any laceration of nerve tissue or rupture of nerve fibers. In such cases galvanism carefully and persistently applied has been known to produce a rapid and permanent improvement of vision, when applied directly to the closed lids, and the current passed through the eye-ball.

## National Association of Railway Surgeons.

The annual meeting of this association was held in this city last week. Something near 350 surgeons were registered. From a business point of view the meeting was a success, but the programme was far inferior to what it should have been. This Association is capable of being made the grandest association of surgeons in the world, and the papers read at its meetings should go down in history as authority upon the subjects which they treat. No other country has so many railway surgeons who can be united in one association. The advantage which this association has over all others in this country is that its members are transported to and from its meetings free of charge.

It is to be regretted that the committee of arrangements for the meeting last week did not invite the local profession to bid the visiting surgeons welcome. This was certainly a mistake. It was unjust to the profession here, as it left the impression upon strangers that, excepting the rail-road surgeons of our city, we were a selfish set at best, whereas, quite the contrary is true, as was evidenced at the meeting of the Mississippi Medical Association here last fall.

## The M. V. M. A.

The Committee of Arrangements is already busy at work arranging for a splendid meeting in Evansville, Ind., in September next. This point is accessible by rail from the north, east, south and west; the city has 40,000 inhabitants and ample hotel accommodations for a large gathering. The name of Dr. A. M. Owen, as Chairman of the Committee of Arrangements is a guarantee that we shall have a royal reception in September.

Those who wish to read papers on this occasion are requested to send the titles of them to Dr. A.M. Owen, Evansville, Ind., or to Dr. R. L. Thomson, Secretary, 3555 Olive St., St. Louis.

A preliminary programme will be given in the columns of the Review at the earliest date possible.

## Female Physicians at a Medical Meeting.

A correspondent to the Nashville *Jour. Med. and Surg.* relates the circumstances of a difficulty encountered by the Cincinnati Academy of Medicine, which arose from admitting lady physicians to its list of members. At a recent meeting a paper was read on the subject of radical cure of hernia, and the author desired to exhibit three male patients to illustrate the good effects of the operations which he had performed. The patients refused to be examined while the ladies were present, and the latter were requested by the president of the Academy to retire from the room, which they did. On the reading of the minutes at the following meeting, one of the ladies demanded of the president an explanation as to why the female members of the Society had been deprived of some of the privileges of that body. It was an embarrassing position for the chairman, but he finally managed to state that the patients declined to be exhibited before the ladies.

I infer from the account given that the lady speaker was inclined to demand that her rights be respected, as she took occasion to

state that she supposed the lady members would be excluded from the banquet which the members were talking of giving. It is probable the lady members of the Academy were elected upon a principle of courtesy rather than of right. For this reason a demand that their rights be respected is much less likely to receive recognition than a simple statement of their grievances, with an expressed willingness to abide by the will of the majority.

Medical men do not hesitate to exhibit female patients to their assembled fellow-practitioners, and it is likely that at no distant day they will not hesitate to exhibit male patients before female physicians. Gradually but surely women are being admitted to the leading medical societies of this country. But the objection that arose in the Cincinnati Academy was a real one. The presentation of patients to verify results reported at medical meetings forms one of the most effective means of disseminating medical knowledge, and since the presence of female doctors excludes the presentation of many interesting cases some way should be devised to obviate this. Some societies can afford to have an adjoining clinical room, many cannot.

## A Generous Offer.

The St. Louis & San Francisco, and Eureka Springs Railroads have invited the State Medical Society to spend the third day of its session at Eureka Springs, free transportation from and back to Springfield, and entertainment while at the Springs being furnished by the roads.

It is probable that the offer will be accepted.

## To the Profession.

The editors of the Review wish its readers to know that the columns of the journal are open to them,and to the profession at large,for publication of papers and brief reports of cases that will be of general interest. Manuscripts sent us that we can not use will be returned to the authors at their request if given within a reasonable time. The authors of well written original papers will receive a number of copies of the Review containing their articles. We solicit correspondence in reference to matter for publication.

## Sunstroke.

Two cases of sunstroke are reported as occurring on the streets of Pittsburg, Pa. April 19.

## MEDICAL ITEMS.

The Collective Investigation Committee of the British Medical Association, as published in its journal, distinctly stated that the habitual indulgence in alcoholic liquors beyond the most moderate amount had a tendency to shorten life, the average shortening being roughly proportioned to the degree of indulgence. Abstracts and extracts have been taken from this report and heralded abroad as refuting the conclusions drawn by the committee.

It is reported, says the *N. Y. Med. Jour.*, that the Roosevelt Hospital is likely to receive by bequest from the estate of the late Wm. J. Syms two hundred and fifty thousand dollars for the erection and equipment of a new operating theater, and one hundred thousand additional for maintaining the same.

We are pleased to learn that Dr. J. M. Matthews, of Louisville, has again reported for duty in the editorial ranks. According to our friend Reynolds, the readers of *Progress* are to be delighted with "a regular mensual series of criticisms on the current literature of Rectal Surgery." It is all right for Dr. Matthews to confine his practice to diseases of the rectum, but we hope he will give the profession the benefit of his criticisms of current literature upon other subjects as well.

## CORRESPONDENCE.

### "IT".

CHICAGO, ILL., MAY 1, 1889.

EDITOR WEEKLY MEDICAL REVIEW.—Your editorial on the new disease, and a detailed description of a case, reminds me of some cases I saw in one of my families last summer that were unique in character, and I dubbed them infective bronchitis.

Miss K., æt. 24 years, of good constitution and never seriously ill previously, was seized with symptoms of coryza and bronchitis. Eyes suffused, profuse nasal secretion and severe cough. Temperature, 100° to 103° F. at various intervals during each 24 hours. Briefly, I will say, the patient passed through all the stages of an alarmingly severe attack of acute bronchitis.

Now the strange portion of the history of of these cases occurs.

Two younger sisters, the mother and a two years old niece were attacked by the malady suddenly,passed through the various stages in a similar manner. The first stage (dry) lasted about 24 hours, the temperature rose to a maximum height of 103° F., the second or secreting stage lasted about five days, and the stage of resolution about four days, each patient being ill for a period of about ten days. There were no signs of any exanthematous or anginal disease, and to this day I am puzzled to know in what the infection consisted or whence it came?

Perhaps the disease was *it*?

JNO. A. ROBINSON, M.D.

## SELECTIONS.

POTATOES AS A SUBSTITUTE FOR LAPAROTOMY.—At a meeting of the Imperial Society of Physicians in Vienna, Dr. Salzer reported a communication from Dr. Cameron, of Glasgow, upon the "potato cure" first recommended by the Scotch observer.

Dr. Cameron has used this plan of treatment in several cases of ingestion of large foreign bodies with gratifying success. Salzer has also had an opportunity to try the potato cure in the case of a boy who had swallowed a brass weight of twenty grammes. Potatoes were fed to the child, cooked in a variety of manners, so as to encourage his appetite. He took them willingly. After five days the brass weight was compelled to retreat, overwhelmed by the constant accessions of reinforcements from above, and passed out leaving the potatoes in posession of the field.

In the same manner he treated the ingestion of a set of artificial teeth, while in another case a scarf pin proved no match for its farinaceous antagonist. Dr. Salzer believes that this form of treatment will subserve a useful purpose in many cases in which up to now gastrotomy appeared to be the only form of relief available. He also advised the members to place no trust in sauer kraut, which has been recommended for the same purpose.

Dr. Hochenegg related the case of a boy who had swallowed a nail 6 ctm. long, in 1884, and had been treated by gastrotomy. He had swallowed a similar nail two years later, when the potato cure had proved successful.

Dr. Billroth spoke of the difficulty which exists in the removal of foreign bodies by laparotomy, and was strongly in favor of the potato cure.—*International Journal of Surgery.*

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EMPYEMA.—Six cases of empyema treated by resection of rib and the injection of iodoform emulsion; healing of all the cases within sixteen days.—Dr. Blake reports (*Lon. Lan*) the last six cases of empyemata that have been treated at the Northeastern Hospital for Children. Five of them recovered; the sixth developed symptoms of broncho-pneumonia upon the affected side thirteen days after the operation, and four days after the removal of the tube and died two weeks later.

All were treated in precisely the same manner—viz., a portion of rib was excised, the fluid pus allowed to run out, the flaky semi-organized lymph removed with a sharp spoon,

and finally four ounces of iodoform emulsion injected into the pleural cavity, three ounces of which were allowed to run out. That the iodoform emulsion materially hastened the healing process there can be little doubt, for in all cases except one the drainage tube was left out on the ninth day (on the twelfth in the exceptional case); the wound healing —that is, the communication between the pleural cavity and the external air being shut off—from the twelfth to the sixteenth day.

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Tannin Treatment of Phthisis.—Dr. E. Houze, of the Hospital St. Jean, Brussels, after having tried the tannin treatment on all his phthisical patients for the last year and eight months, states as a result of his observations that it gives excellent results in all stages of the disease, and especially in the condition where cavities exist. Indeed, he has no hesitation in declaring that of all the different kinds of treatment for phthisis which he has tried this has given by far the most encouraging results. The dose he employs ordinarily is fifteen grains, which quantity is taken three times a day. It is, as a rule, well borne; where this is not so, it is ordered to be taken with meals. After the first few days the expectoration and the sweats diminish, the cough decreases, and in many cases the appetite undergoes a marked improvement. The majority of the patients suffered from some slight degree of constipation, though in some this feature was sufficiently marked to require treatment, while others, again, suffered from diarrhea. The character of the expectoration changed for the better, the sputa becoming white and frothy instead of green and firm. In some cases the diminution of the expectoration was followed by increased dryness of the cough, so that the patients complained that it fatigued them more; this was easily remedied by prescribing a few spoonfuls of syrup of codeia. The physical signs underwent a remarkable change for the better, at least those depending on auscultation, moist rales giving place to dry rhonci, and large gurgling rales decreasing progressively until they gave place to mere blowing respiration. The changes were evidently due to the drying up of the cavities, in consequence of which the hectic present in many of the cases vanished, the patients increasing considerably in weight and gaining strength in a remarkable manner. The percussion signs were not found to undergo so marked a change as those dependent on auscultation, but even here some improvement could be detected. No bacteriological observations were made.—*Lancet*, March 9, 1839.

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The Treatment of Chlorosis.—It is to be feared that chlorosis is too often treated on the routine principle of giving iron, without due regard to the ability of the organism to turn the supply to useful account, and without sufficient attention being directed to the collateral condition of the digestive and other systems. It should always be borne in mind that the total amount of iron in the body, in health, does not exceed a drachm or two, and it cannot all have disappeared even in chlorosis. An excess of iron administered by the stomach is only likely to cause gastro-intestinal irritation, and thus lower an already debilitated function. The essential feature of the treatment should be to restore the tone of the digestive organs and to give the iron in a form which admits of assimilation. The preparation answering to this description will vary according to the patient, but, as a rule, the milder the form the more satisfactory will be the effects. In many cases iron fails to produce the hoped-for effects, and then the best thing is to give a mixture consisting of hydrochloric acid with a vegetable bitter, regulating the bowels by means of podophyllin or cascara sagrada, following it up by a course of arsenic. Sometimes manganese proves successful when both arsenic and iron have not been productive of benefit, the binoxide being the most suitable preparation for exhibition. It is hardly necessary to observe that the medicinal treatment must of necessity be subsidiary to general hygiene, and the observance of the maxim, *sublata causa, tollitur effectus.—Med. Press.*

Permanganate of Patassium in Amenorrhea and Dysmenorrhea.—Dr. J. M. Lwow divides his 187 cases affected with these disorders into five groups: 1. Young girls, somewhat chlorotic, but otherwise healthy, who complain of severe pain during menstrnation and of diminution of the amount of the flow, 32 cases. All were rapidly cured by taking from four to six grains of permanganate of potassium in extract of pulsatilla shortly before the period of meestruation. 2. Women suffering from extreme involution of the uterus after birth, or from atrophy of the uterus and ovaries, 17 cases. (With most of these patients two years had passed since they last borne children). Permanganate of potassium taken in the same doses from three to six months without interruption, re-established already, in four or six weeks, the menstrual functions, which remained regular provided the drug was continued. 3. Slow involution of the puerperal uterus in connection with old, inflammatory processes of the uterus and its appendages, with slight but very painful menstruation, 62 cases. Here the results were also satisfactory, although some cases proved unsuccessful—namely; those in which puerperal illness had left irreparable changes. 4. Blennorrhea of the vagina and uterus, 65 cases. In these cases the drug, though continued for some time, had no affect whatever. 5. Women in whom menstruation had begun too early and ceased between the ages of 35 and 40, 11 cases. No results.—*Therapeutische Monatshefte.*

(Manganese binoxide would appear to be the more rational preparation to use, as the permanganate of potash upon arriving in the stomach is immediately reduced to the binoxide.—Ed.)

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Stomach washing in Infants.—In severe indigestion of infants the physician naturally seeks by regulation or change of diet to avoid overtaxing the digestive powers of the patient. In many cases such treatment effects a cure. In other cases, however, the correction of abnormal conditions of the milk and even the withdrawal of milk and the substitution of other foods fail to remedy the disorder. Scientific physicians tell us that in these cases the undigested milk which remains in the alimentary canal is the source of a poison which enters the blood and keeps up the diseased condition of the patient.

It has become the custom, therefore, in asylums for sick infants, to irrigate the bowels by means of long rectal tubes, and it seems that in some cases almost the whole intestine from pylorus down, may be thus cleansed, with great benefit to the patient. In the Archives of Pediatrics, April 1889, Dr. Seibert of New York, describes how in 93 cases, he has, after the teaching of Epstein, applied this irrigation to the stomach from above. He finds that in simple vomiting with loss of flesh, a single irrigation of the stomach will often check the vomiting and cure the patient. In acute gastro-intestinal catarrh or cholera infantum, except in the stage in which serious disorder of the brain has set in, irrigation of the stomach is of great value. The children go to sleep a few minutes after the operation is ended, and after several hours sleep, awake free from nausea and vomiting and with less severe diarrhea. In chronic catarrh of the digestive tract he has obtained the best results. Cases that have withstood all changes in diet, all known old and new drugs, cases diagnosed as atrophy, marasmus, phthisis of bowels, etc., have been cured by this treatment. The irrigation is not depressing, but rather stimulating. It is performed about 2½ hours after a meal. The clothing is loosened, the infant is placed upright in the lap, a soft velvet-eyed catheter is passed over the tongue, which is depressed by the index finger, into the pharynx. The contraction of the pharvngeal muscles is overcome by gentle pressure and the catheter enters the stomach. A cupful of milk-warm water is allowed to flow into the stomach, and after a little while, out again through the catheter which is used as a siphon. Irrigation of the stomach and of the rectum may both be used with advantage in the same patient.—*Ed. Md. Med. Jour.*

"Has a Homeopath—(known as such) the right to use other than homeopathic means in the treatment of a case?"

This question was propounded to Judge Geo. C. Barrett, Supreme Court of New York. who decided in the negative. He says:

"If I call in a medical man who designates himself a "homeopatic physician" it is because I don't wish to be treated allopathically or electrically or otherwise than homeopathically." Common honesty demands that before a confiding patient (in hands of a declared homeopath) is to be drugged with quinine, iron, morphine or other medicaments, he should be told that the homeopathic system has failed, and that relief can be had only by a change of system; the homeopath is in honor bound—according to Judge Barrett's decisions, to "give small doses of a single drug—administered upon the principle of *similia similibus curentur*;"—if he do otherwise, he is a fraud and a cheat."—*Daniel's Texas Medical Journal.*

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Anemone Pulsatilla in Gonorreal Orchitis.—Dr. Martel has employed anemone pulsatilla for some years in gonorrheal orchitis with success. In 1885 and 1886, he reported a series of cases which he had cured with this agent, in doses of thirty drops of the tincture in twenty-four hours. The drug has the advantage of mitigating the pains and enabling the patient to walk. Dr. Bazy has taken up the experiments lately in the Hospital Midi, Paris, and communicates to the *Semaine Medicale*, an account of forty-eight cases so treated. In thirty-five cases, recovery was complete; in ten there was very marked improvement; in two recovery is uncertain, and in one case the drug had no effect.

Bazy employs the drug in the following formula: ℞. Tinct. anem. pulsatillæ, gtt. xxx, syrupi, f. ℥ iv. M. Sig. Dessertspoonful every two hours.

The remedy is willingly taken and well borne by the patients. Treatment must be continued until complete recovery occurs. The average time required for cure is eleven days.—*Med. and Surg. Reporter.*

A German physician wishes to know when syhilis ceases to be communicable from the hands of a surgeon or obstetrician who has been inoculated with the disease. So long as he keeps his hands perfectly clean and the cuticle on them is unbroken I do not think he subjects his patients to any risk of inoculation by his manipulations.

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## BOOK REVIEWS.

American Resorts; Notes Upon Their Climate, by Bushrod W. James, A. M., M. D., Member of the American Association for the Advancement of Science; the American Public Health Association; the Pennsylvania Historical Society; the Franklin Institute, and the Academy of Natural Sciences, Philadelphia; the Society of Alaskan Natural History and Ethnology, Sitka, Alaska; etc. etc. With a Translation from the German by Mr. S. Kauffmann of those Chapters of "Die Klimate der Erde," written by Dr. A. Woeikof, of St. Petersburg, Russia, that relate to North and South America and the Island and Oceans contiguous thereto. Intended for invalids and those who desire to preserve good health in a suitable climate. F. A. Davis, Philadelphia, 1889. Octavo, 300 pages, cloth. Price, $2.00.

As stated in the authors preface, this book does not aim at a scientific consideration of the subject of climatology, but it is intended especially for the laity as a reference book for information regarding our climate and health resorts. No attempt is made to describe the trans-Atlantic health stations, as our own country affords sufficient variety and range of climate, conditions to meet the needs of any case. The first chapter as a short one on medical climatology, in which the elements of climate are discussed in a popular manner. The second is upon benefits and dangers of health resorts, in which are emphasized the facts, that a proper selection of a resort necessitates a careful consideration of the peculiarities of the individual, and that suitable surroundings and congenial company are important requirements. These points are all

kept in mind by the author in the descriptions which follows, of Sea-Side, Fresh Water, Mountain, Summer,and Winter Resorts, Trips upon Ocean, Lake and River, and of Mineral Springs. The chapter on Therupeuties is a good one; it imparts to the people general information, which every physician will be glad to have diffused, and will surely not have any tendency toward causing patients to take their cases too much into their own hands. Mexico and South America are given four pages toward the end of the book.

Finally, the last and twelfth chapter is a translation of those portions of Woeikof's "Klimate der Erde," which relate to North and South America and the Islands and Oceans contiguous thereto. On the whole the book is one of popular instruction which no physician should hesitate to put into the hands of a patient, and from which many of the professors can cull information, which may be difficult to obtain elsewhere.

## OBITUARY.

### Samuel W. Gross, M.D.

Dr. Samuel W. Gross, the well-known surgeon of Philadelphia, died on April 16, aged 52 years. He was a son of the late Professor Samuel D. Gross, and succeeded him in the chair of surgery in Jefferson College. Dr. Gross was born in Cincinnati, February 4, 1837. He was educated at Shelby College, Ky., and studied medicine in the medical department of the University of Louisville and Jefferson Medical College. He was graduated in March, 1857, and settled in Philadelphia. He soon made headway in his profession, and became an active member of the College of Physicians, Pathological Society, County Medical Society, and of the State Medical Society of Pennsylvania, and was at one time President of the Association of American Medical Colleges. Dr. Gross was the author of several valuable surgical works, and was a frequent contributor to periodical liturature. He enjoyed deservedly a reputation for sound learning and great practical skill.

### M. Michel Eugene Chevreul.

This distinguished French chemist died April 9, 1889, at the remarkable age of 103 years. He was born in Angier, Aug. 1, 1786. Having completed his studies in the Central School of that place, at the age of 19 he went to Paris where he was engaged in the chemical factory of the celebrated Vauquelin, who discovered in his young pupil such aptitude and segacity that he instrusted the direction of his laboratory to him.

In 1810 he was preparator of the chemical course in the Museum of Natural History,and in 1813 was appointed professor in the Lycee Charlemagne, and the officer of the university. In 1824 he was made director of the dyeries and professor of special chemistry in the carpet manufactory of the Gobelius, where he had leisure to follow his favorite pursuits into detail, one of which was his investigation of animal oils, or grease. In 1823 M. Chevreul published a work on this subject, for which the Society for the Encouragement of National Industry awarded him the prize of 12,000 francs. M. Chevreul has written various scientific works, some of which have been translated into various European languages. M. Chevreul had contributed to the proceedings of scientific societies, to dictionaries, and to other works. In 1830 M. Chevreul succeeded his former master, Vauquelin, in the Chair of Chemistry at the Museum of Natural History, since which time he has become Fellow of Royal Society of London and President of the Society of Agriculture. In 1864 he was appointed director of the Museum of Natural Histoay for five years, and in 1869 reappointed for another quinquennial period. He was made Commander of the Legion of Honor Sept. 24. 1849.

### Dr. Edward T. Bruen.

Dr. Edward T. Bruen, Assistant Professor of Physical diagnosis in the University of Pennsylvania, died of pneumonia, March 31, 1889, at the early age of 39 years. He was the author of a creditable work on the Physical Diagnosis of the Heart and Lungs," and visiting physician to the Philadelphia and German Hospitals.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### CHLOROFORM IN OBSTETRICS.

BY I. N. LOVE, M.D., ST. LOUIS, MO.

Unquestionally one of the greatest benefactors to womankind the world has ever known was the Scottish physician, born at Bathgate, Linlithgowshire, June 7, 1811, who died in Edinburg, May 6, 1870, he who was the first to apply the new discovery of anesthesia to midwifery practice, which he did Jan. 19, 1847, and was awarded in 1856 the Montyon prize of 2,000 francs by the French Academy of Medicine "in consideration of his services to humanity by the introduction of anesthesia into the practice of midwifery and the discovery of the anesthetic properties of chloroform" and who was as a regard for these and other great services to his kind, and the cause of science, created a baronent by his government in 1866.

Sir James Young Simpson should be the patron saint of every woman and every man born of woman as long as the world goes round. His name will be most loudly echoed down the corridors of time along with the greatest of the earth's great names, and if there be any reverberated upon the shores of eternity, he will surely be among the number.

Upon entering the medical profession in 1872, in consequence of association with those who were somewhat opposed to anesthesia in labor, I, for several years in hospital and private, did not give my patients the benefit of this great boon. In 1878 my attention was specially called to the subject, and I investigated it thoroughly. I interrogated closely the literature and the most successful workers in this field, and became so thoroughly convinced that it was the duty of the accoucheur to give his patient the benefit of anesthesia, that I became a devotee to the practice. I think as has been stated by Simpson that in midwifery practice chloroform may be regarded as more manageable and powerful, more agreeable to inhale and less exciting than ether, and as giving greater control over the superinduction of the anesthetic state.

I cannot recall from any source a report of a death from the use of chloroform in labor.

Some of the objections to its use that have been urged are that :

1st. It retards the labor.

2nd. It increases the tendency to post-partum hemorrhage due to its supposed relaxing effect upon the uterine fibers.

3rd. It prolongs the convalescent period of the parturient woman.

4th. It endangers the safety of the child.

So far as the retardation of labor is concerned, I was convinced to the contrary.

Chloroform calms the agitation and mental excitement, often present in nervous women. It is conservative and conclusive to the good of the patient in that it relieves her of the spasmodic and irregular contractions which in no way advance labor, but tend to a condition of exhaustion and nervous irritability bordering upon frenzy. A pregnant woman properly cared for will have her bowels thoroughly emptied once or twice daily up to the hour of her trial. When the first preliminary pains appear she should recieve a hypodermic injection of morphine, and if the first stage be prolonged, she should have administered to her, one-half teaspoonful doses of bromide every hour or two, so that a very thorough state of tranquility be secured. After the first stage has passed, and the patient has entered well into the second stage—

the latter half of it—chloroform should be administered to every case, natural or unnatural, that will consent to take it. A partial obtundity only is desired, except in operative procedures. Occasionally, in fact in the majority of cases, the administration of an ounce of spiritus frumenti every one or two hours will be an advantage.

In the administration of chloroform we should pursue the same course we do in the use of other remedies. We should make haste slowly, carefully study the individuality and idiosyncrasy of a patient. Guard against over susceptibilities. I have yet to find the parturient women by whom chloroform was not received well, no matter how strong the prejudice against it previously by her family or her physician.

The observation of several cases of labor during my term of office as City Physician of St. Louis in 1875 and 1876, occurring in women who were "dead drunk" and the victims of opium narcosis, which were accomplished without interruption, together with several recently recorded victims of hypnotism, are all arguments in favor of the thought that agents which interfere with sensation and volition do not affect unfavorably uterine contraction.

Dread and fright in the parturient are responsible for many of the accompanying dangers, and the agents above referred to materially mitigate them.

The mental tranquility secured is of great advantage.

The softening of the asperities of the accouchement is a great husbandment of the resources of the patient.

Sharp and severe, though brief pain is demoralizing to the nervous force.

Constant nagging, ineffectual, long-continued spasmodic pains are essentially exhausting, and the patient should be saved from them.

In my judgment, the course outlined above is advantageous for the reason that:

1. It adds to the pleasure and comfort of the patient, and robs maternity of many of its terrors.

2. It conserves the strength and endurance, and other things being equal, the patient will more promptly recover her normal condition.

3. By its tranquilizing effects, the tendency to puerperal convulsions is more than likely greatly lessened.

4. Coupled with proper care, and the administration of a drachm of Squibbs or O.W. L. ergot immedietely upon the expulsion of the head, post-partum hemorrhage is almost completely obviated.

5. Pursuing this plan, the perineum is probably less liable to be ruptured.

6. The child is in no manner unfavorably affected.

During the past eleven years I have almost without exception purged my patient daily during her entire pregnancy and each day thereafter, commencing within an hour after the termination of labor.

I have saved her every pain and discomfort possible during the parturition, and I have, during this time, had not one case of puerperal convulsions or post-partum hemorrhage. The cases have almost uniformily made rapid recoveries, whether primipara or multipara.

In no case was there a fatal result.

In closing I give the following clinical report:

Mrs. X., mother of theee living children, the oldest, 7 years old.

All of her labors had been very severe, pro longed, agonizing and exhausting, and ter minated with forceps. Patient stated that her physician had alvays said that it was impossible for her delivery to be accomplished without forceps, owing to the narrowness of pelvis diameter. Had never taken any anesthetic, owing to the fact that the doctor said she was not a good subject for it.

Aug. 15, 1888, was called at midnight, the family physician being out of the city. Upon examination found Mrs. X. in the first pains of the first stage of labor. She was a snugly built, firmly knit little woman of a probably natural weight of 130 pounds. No evidence of special narrowing of pelvis which

I could discover. The os was just beginning to dilate, but was evidently quite rigid. Patient nervous and anxious over the prospect of her usual terrible trial and the absence of her usual medical attendent. (The labor having commenced a week earlier than she had anticipated). The position of the child was a natural one.

I applied myself to the quieting of her fears, assuring her that everything was in good shape, administered a fourth of a grain of morphine hypodermically, which had a very happy effect; instructed the nurse to give my patient a half dram of bromides every hour or two if she did not rest comparatively well. Went to bed in an adjoining room myself, directing that I be called when the demands should become urgent. At five o'clock I was summoned, and examination revealed the second stage of labor well advanced. Pains regular, strong and full and satisfactory at intervals of three minutes, the patient resting and dosing between pains.

To my mind there was nothing to contraindicate chloroform in spite of the fact that the family physician objected to giving it to her (I recalled the fact that the doctor rarely gave chloroform to any one, indeed was opposed to it)and so I proceeded to administer it to her (having first given her a toddy),only giving sufficient chloroform to render her partially insensible. Between pains she rested calmly and slept; during the pains she "bore down" well and aided materially.

Within an hour after I was last summoned, she was safely delivered of a large child, her first boy. A large dose of oil was at once administered to her. She rested quietly (having frequent naps) during the day; in the evening her bowels moved freely. She made a rapid recovery, much more so than ever before.

It is needless to say that, having so quiet and comfortable a time, and an apparently brief labor without forceps (though the child was larger than either of the other three)with a pleasant and rapid convalescence, and more complete recovery than usual, this patient became a firm convert to chloroform in labor.

## EPICYSTIC SURGICAL FISTULA FOR CYSTOSCOPIC EXPLORATION; INTRAVESICAL TREATMENT AND DRAINAGE.

BY JOHN D. S. DAVIS, M. D., BIRMINGHAM, ALA

Read before the State Medical Association of Alabama, April 11, 1889.

Epicystotomy has become an established and frequently practiced procedure, and the danger incident to opening the bladder through the abdominal wall is so slight that patients suffering from almost any vesical trouble are encouraged to have the bladder opened for diagnostic purposes and treatment at a time when the general health remains unimpaired; a practice which, a few years ago, would not have been resorted to by the most aggressive surgeon.

Catarrh of the bladder, irrespective of its cause, is always followed by a series of consecutive pathological changes which, independently of the partial or complete interruption of the passage of the urine tend to destroy life. A dilatation of the bladder and ureters by retention of urine may give rise to such a degree of distention as to destroy life from suspension of important functions by mechanical pressure. During the stage of inflammation a paretic condition may occur, the blood-vessels in the vesical wall lose their support, and transudation and exudation take place into the paravascular tissue, which, combined with capillary stasis attending this stage of the disease, results in sloughing, infiltration, pyemia, peritonitis and death. The daming up of the urine may, and does often, cause surgical-kidney, epididymitis and tetanus.

The treatment of chronic vesical catarrh resolves itself into a consideration of the causes producing the disease, many of which, the presence in excess of certain inorganic constituents of the urine, stone, stricture and hypertrophy, are capable of correction; whilst others—such as malignant tumors and certain conditions of the prostate—may only admit of a palliation of the symptoms to which they

give rise and the removal of which must be the first object in treatment. But when a paretic condition of the bladder exists provision must be made for the complete continuous emptying of the viscus; its thorough cleansing by frequent irrigation with hot sterilized water; and the promotion of a healthy tone in the mucous membrane and muscular structure of the bladder. The frequent introduction of catheters for drawing off residual urine and washing out the bladder has been productive of much harm, and, instead of giving relief, proved to be, by reason of their frequent introduction into the inflamed bladder to draw off the urine two or three times a day, a source of immediate and alarming symptoms. These facts are cogent reasons for adopting surgical means in all cases of intra-vesical troubles as soon as a diagnosis can be made, and often when it cannot otherwise be made, for the complete emptying of the bladder, thorough cleansing, diagnosis and intra-vesical treatment.

The epicystic surgical fistula is designed for drainage, intravesical treatment and cystoscopic exploration, and may be divided for consideration under the following heads:

I. Definition of epicystic surgical fistula.

II. Surgical resources in the formation of the epicystic surgical fistula.

1. Preparation for the operation.
2. Anesthesia.
3. Position.
4. Incision and opening bladder.
5. Inter-vesical exploration and treatment.
6. Toilette and after-treatment.

III. Advantages of the epicystic fistula.

1. Cystoscopic exploration.
2. Intra-vesical treatment.
3. Drainage.

## I.—Definition of Epicystic Surgical Fistula.

Epicystic surgical fistula is the title here given to a suprapubic fistula into the bladder created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula, which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, to provide a ready, convenient and comfortable means of emptying the bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications.

It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations, and imitates nature in the restoration of its own continuity and repair as the pathological changes within the bladder subside.

## Surgical Resources in the Formation of the Epicystic Surgical Fistula.

(1). *Preparation for the Operation.*—The presence of two assistants, though not necessary, may be of valuable aid. A temperature of 80° or 85° F. should be maintained in the operating room from the beginning to the end of the operation. All hair is to be shaved from the pubis and all the details of antiseptic surgery are to be carried out so far as cleaning the pubis and abdomen. The bladder is emptied and thoroughly washed with warm water. When the water returns clean the bladder is slowly distended with warm sterilized water thrown into the bladder by means of a fountain syringe, with nozzle in urethra—a degree of pressure sufficient to distend the bladder to its utmost capacity—which can never be too great for the resistance of the bladder. It is better to fail in filling the bladder than to distend the bladder beyond the limit of competency. Indeed it is not necessary to fill the bladder to any degree of resistance. I have operated when the bladder was in an irritable condition and would not tolerate distention greater than the capacity of two ounces, and had no difficulty in avoiding the pre-vesical fold of peritoneum or finding the bladder. The water is secured in the bladder by tying the penis at the base with a rubber tube.

A colpeurynter is next to be well oiled and inserted into the rectum—the rectum having been previously emptied by enema—and filled with warm water. This distention brings the bladder into view above the pubis.

(2). *Anesthesia.*—My preference for chloroform is the result of my own personal ex-

perience with it. It is not free from objections, as its depressing effect on the heart is well known. The operation usually occupies fifteen minutes; and, hence, its prolonged use would be unnecessary and uncalled for. The objection to ether is the suppression of the excretions and the frequency with which bronchitis is produced when administered to persons advanced in years. The best course to pursue, when the operation is prolonged, is to follow the use of chloroform by ether. The patient must be kept profoundly under the influence of the anesthetic from the first incision until the superficial wound is closed.

(3). *Position.*—The patient is placed on the back on an ordinary operating table with the legs extended as if in a position for perfect comfort and rest. Many surgeons claim advantages in the position recommended by Trendelenberg. Eigenbrodt emphasizes the fact that the elevation of the pelvis in Trendelenburg's position (in Trendelenburg's position the patient's legs are held over the shoulders of an assistant with the body resting on an incline table, much in the position which hogs are swung for spaying) helps the surgeon to avoid the prevesical peritoneal fold at the time of the incision of the bladder.

I have employed this posture for introvesical operation by means of the supra-pubic incision with no advantage over the ordinary flat-back position. With two openings in the bladder for a continuous stream of clear water I have no trouble in illuminating every part of the bladder with the electric surgical light and thus enabled to examine the entire intravesical wall. Undoubtedly the position recommended by Trendelenburg possesses advantages which, to the author more than myself, makes it highly ideal. As for myself I prefer and recommend the flat-back position.

(4). *Incision and opening bladder.*—A perpendicular incision three or four inches long is made in the median line above the symphysis pubis. The recti muscles are separated to symphysis. If the pyramidalis are in the way, the fibres should be cut. The transversalis fascia is divided on a grooved director from symphysis to within one inch of upper margin of superficial wound. Instead of following Guyon's maneuvre, I catch the bladder with a tenaculum on a line with the symphysis, through the prevesical fat, and cut through with a bladder knife into the bladder with one smooth, clean incision to prevent undue disturbance of the cellulo-adipose tissue between the bladder and pubis and avoid infiltration. I have never seen a case where it was necessary to put up the prevesical fat, and with it the peritoneal cul-de-sac. If the bladder is caught on a line with the symphysis and cut downward, no fears need be had for the peritoneum. Cutting this prevesical fat prevents its after dropping down over the opening into the bladder and acting as a valve to prevent easy escape of urine and causing infiltration. And, too, such a procedure gives a smooth incision throughout, and it is almost impossible to have infiltration, even when no drainage tube is left in the bladder and the urine is left to flow out through the fistulous track and taken up by a layer of absorbent cotton. In making the incision into the bladder, no attention is to be paid to any vein or veins which are sometimes met with. If cut, they will stop bleeding when the bladder is dropped back and the rectal bag removed. The operation is usually bloodless in the sense of hemorrhage. I have operated without the patient losing more than one drachm of blood.

(5). *Intra-vesical exploration and treatment.*—The finger is carried into the bladder and a thorough search made for any tumors, villous growths or foreign bodies. The bladder is now emptied and the rubber around penis untied and the bladder well washed out with hot sterilized water. The bladder can now be examined with the cystoscope and surgeon's electric light. If tumors be found, if practicable they should be removed; villous growths and any foreign body found should be removed. If nothing is found in the bladder, the surgical fistula, in the absence of malignancy, will be all that is required to relieve the cystitis.

(6). *Toilette and after treatment.*—The bladder is allowed to drop back into the pelvis and the superficial wound so closed by two sutures (including the skin and superficial fascia only) in the lower portion of the incision and one in the upper portion of the incision as to leave a fistulous track of equal size from bladder to juncture of upper third and middle third of the superficial incision. A large rubber catheter is now to be introduced into the bladder through the opening and its distal extremity allowed to enter a urinal placed in the bed between the patient's thighs, or preferably at the patient's side. Prof. F. Trendelenburg, director of the surgical clinic of the University of Bonn, proposed, for draining the bladder in supra-pubic lithotomy, the T-tube in latero-abdominal position and open wound treatment as the simplest, safest and best. He makes an antiseptic dressing of iodoform gauze around the T-tube. There can be no real necessity for a tube of any kind to be introduced into the bladder for the purpose of conveying the urine from the bladder to prevent infiltration, irritation of superficial fascia and soiling of dressings.

If the urine is kept acid, by the administration of citric acid or some other more palatable acid drink, no better antiseptic than the acid urine can be secured for the constant bath of the parts. It should be allowed to flow out through the wound and absorbed by a pad of absorbent cotton placed loosely over the wound, and removed as often as soiled by the outflowing urine. By this method of emptying the bladder, no possible small amount of urine can be impeded in its outflow, which is the case around and outside of the tube, when catheter or tube is left in for any length of time—a source of no little annoyance at times. This little collected or retained urine, around the outside of the tube alone, I have seen produce a hard chill and elevation of temperature, and become for the time an immediate, alarming and aggravating source of trouble. I never have seen the skin made sore or chafed by the outflowing urine in epicystotomy, or from its after escape through the surgical fistula.

The bladder should be washed out twice daily with hot sterilized water, by means of a fountain syringe, with its nozzle introduced into the urethra, the water escaping through the epicystic fistula and guided into a bedpan under the patient. The superficial stitches are taken out at the end of a week, and intermittent catheterization by the fistula is then resorted to for the sole purpose of training the fistula and prevent its rapid closure. It is not necessary to catheterize for the purpose solely of drawing off the urine. In one case I never drew the urine save for the purpose of analysis, but occasionally introduced a rubber bougie to prevent the closure of the fistula. The drainage by the fistula alone is admirable, and the fistula will be well formed in twenty or thirty days, competent to retain urine without dripping and to allow its escape in a good projecting stream at will. With no tearing of the tissues, and, with a clean cut, the drainage is perfect and the dangers are *nil.*

III. Advantages of the Epicystic Surgical Fistula.

(1). *Cystoscopic Exploration.*—Nitze has by means of the cystoscope been enabled to diagnosticate tumors of the bladder in nine cases in which rectal palpation, the sound and other means furnished negative results. One of the great difficulties in the cystoscopic exploration of the bladder is the presence of pus, mucus and sometimes blood, which renders it exceedingly difficult to maintain a translucency of the fluid used to distend the bladder. By means of a simple fountain syringe a constant current of clear water may be kept within the bladder so essential to a complete observation of the trigonum Lieutaudii, the most interesting part of the viscus, the ureters; and to examine any affection of that viscus. The fistula may be made for temporary purposes of cystoscopy by the Peterson-Guyon-Perier operation; but I can see great advantages from a different operation, by Dr. Hunter McGuire, the object of which tends to eliminate as well as detect the trouble within the viscus; and, too, in the final construction of a permanent fistula, gives an

easy after-method of exploration, and makes a better artificial method by reason of its length and extension upward of two to three inches. Diagnostic purposes are met by the possibility of immediate detection of all local conditions, such as tumors, calculi, foreign bodies, neoplasms, the collection of fluids from the ureters, etc.

(2). *Intra-Vesical Treatment.*—Having by means of the epicystic exploration revealed the true nature of the intra-vesical trouble, the treatment resolves itself into the immediate necessities of the case. For instance, prostatectomy may be necessary, villus papilloma may be found and should be remedied; pedunculated growths may be found which should be removed by the scissors or Paquelin's cautery, etc. In such cases the opening in the bladder sufficient to introduce the finger, should be enlarged downward under the symphysis pubis and the operation indicated should at once be performed. The object of the formation of the permanent surgical fistula is to meet the after indications in such operations, the details of which does not properly come within the province of this discussiion. However, it is sufficient to state, what is reasonable and practicable, that a better means by which the intra-vesical wall can be reached and treated therapeutically has not yet been devised.

(3). *Drainage.*—Permanent after-drainege in all intra-vesical operations can not be necessary; but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved and the urine becomes normal and passes per urethra unobstructed. And until this end is attained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths when removal of the obstruction is impossible or contra-indicated, the epicystic surgical fistula is clearly indicated and essentially necessary. It meets every possible indication for local treatment and gives the only controllable, ready and free drainage to viscus and kidneys. Urinary back pressure as the result of incompetency of the urethra from the various immovable prostatic troubles is often an immediate and remote cause of surgical-kidney, which can only be removed or relieved by supra-pubic drainage. In conditions of the bladder, of long standing cystitis as in the case reported by me in the *Va. Med. Month.* (*Va. Med. Month.*, April, 1889, *Ala. Med. and Surg. Age*, April, 1889, *N. Y. Med. Jour.*, April 13, 1889), in which the urethra, though made competent by cutting, was not sufficient to keep the bladder emptied without catheterization—a procedure which kept up a constant vesical inflammation, which, combined with capillary stasis attending the inflammatory process resulted in paresis.

I now have the pleasure of introducing that case, Mr. T. A. Nixon to you fifty-eight days after the operation. His condition to-day is sufficient guarantee for all I have said in favoring the formation of an epicystic surgical fistula for the relief of chronic vesical catarrh. The result in this case is more than I promised. He can retain his urine several hours and without dripping of urine or pain to bladder. Urine completely under control and bladder relieved of pain.

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## Foreign Languages.

European physicians visiting America are greatly surprised to find so few native American physicians who speak more than one language. The explanation is found in the fact that the necessity for French and German does not exist here as in European countries. Still for practitioners in our larger cities it is quite desirable for them to have a knowledge of German. Especially is it useful in hospital practice. A small book was published in New York a few years ago, under the title of *Deutches Med. German* that is a great help to physicians learning the language. There has come to our table a fortnightly journal, *Germania*, published in Manchester, N. H., which we think will be of much assistance to those who are endeavoring to acquire an extensive German vocabulary.

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R. L. THOMSON, M.D., BRANSFORD LEWIS, M.D., EDITORS.

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SATURDAY, MAY 18, 1889.

## THE RELATION BETWEEN GRAVES' DISEASE AND NASAL OBSTRUCTION.

Three cases have recently been reported by three different observers in various parts of Germany in which intra-nasal operations undertaken for the relief of nasal obstruction had very unexpectedly led to the diminution or even disappearance of the symptoms of a concomitant Graves' disease. Further, two cases are recorded by Stokes, of London, in which simple goitres diminished in size or even disappeared entirely soon after such operations. That these changes were actually brought about by the intra-nasal operations, and were not simply coincidences is shown by the suddenness of the improvement and by the fact that the disappearance or diminution of the exophthalmus and of the thyroid enlargement corresponded in all these cases to the side operated upon.

That the changes occasionally brought about by intra-nasal operations in the domain of the sympathetic nerve may be also unfavorable is proven by a case recently reported by Dr. F. Semon before the Clinical Society of London, and published among the transactions of this society in the *Brit. Med. Jour.*, April 20, 1889. In this case an operation was undertaken for the removal of multiple, recurrent, mucous polypi of the nasal for the relief of the obstruction and the co-existing asthma.

The operation was entirely successful but was followod in a day or two by exophthalmus of the patient's right eye. There was neither enlargement of the thyroid gland, nor increased frequency of the pulse rate, but that the exophthalmus was of the nature of Graves' disease was clearly shown by the lagging behind of the upper eyelid when the patient looked down (Graves' symptom), and the retraction of the upper eyelid (Stellung's symptom).

Many theories may be formulated to explain this phenomenon, such as that of a reflex dilation of the vessels of the orbit with turgesence of the retro-bulbar fatty tissue, but the object is mainly to direct attention to the existence of such relations between Graves' disease and nasal obstruction.

## THE TREATMENT OF OBESITY.

Another method of reducing the weight is reported by Dr. W. F. Smith in the *Brit. Med. Jour.*, who has obtained with it remarkable results upon himself, and the majority of the 42 cases in which he tried it. He limits the diet to rump steak, codfish and hot water for 14 days. The ingestion of such large quantities of meat may induce dyspepsia, but this difficulty can be easily obviated by reducing the meat to an essence.

In treating his cases he has been obliged in a few instances to lessen the amount of hot water, and, occasionally the quantity of meat, but in some, as with himself, it may be found that the above amount of solids are hardly sufficient to satisfy the appetite. The amount of hot water to be taken in the 24 hours is on the average about six pints. but it will vary slight in one or the other direction according to the powers of the patient. During the succeeding 31 days the hot water is reduced to four pints in the 24 hours, and other kinds of meat and fish are allowed, such as mutton chops minus the fat, chicken, grilled turbut, whiting, soles; a little green vegetable and some unsweetened rusk are also added. During the third stage of the treatment which extends over the next 31 days, the hot water is reduced to quart a day, and he allows tea, stale bottom crust of household loaf, captain's biscuit, grilled fish, fruit, game, turkey, any joint, hock or claret with seltzer water.

Hot water will be found to be very unpalatable, but this may be corrected in a greart measure by adding to each tumbler a slice of lemon.

This treatment may even be applied to a patient suffering from any organic disease, unless it be some trying malady. The treatment is borne exceedingly well, the patients expressing themselves as feeling far better generally, and able to exercise with comfort.

The first period of 14 days is really the only hardship, but patients are easily persuaded to adhere to the diet.

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## A Series of 200 Consecutive Cases of Midwifery in Private Practice.

Such reports as this one, by Dr. Alfred Worcester, of Waltham, Mass. (*Bost. Med. and Surg. Journal*, May 2, 1889), are of distinct value to the profession. Statistical data in midwifery come mostly from hospitals, where everything is favorable to the successful issue of operations, and conclusions from them must be modified somewhat to fit outside obstetrics, when surroundings are often most unfavorable and assistance usually less skilled and insufficient. What is especially needed nowadays is statistics bearing upon the application of antiseptic principles to midwifery in private practice. We want not only mortality but morbidity statistics from both those who favor antisepsis and those who report it as unnecessary; then by comparison we can decide how frequently, if at all, "colds on the third day," "attacks of malaria," and "milk-fever," by the exercise of a few precautions, can be avoided.

Physicians are too prone to stand up and give their opinions that this or that mode of practice is not necessary. Those, indeed, with a true scientific spirit are loath to accept opinions without the facts upon which such are based.

Of the 200 cases but 96 can be called normal as regards both the labor and convalescence. The series includes 18 cases where the child was born before his arrival; and the details show that post partum hemorrhage occurred in 22 per cent, and laceration of the perineum in 39 per cent of these unattended cases. Comparing these percentages with those of the same accidents in attended cases, it is found that the latter are not so high by a half; and even in cases of operative interference the percentages are only slightly higher.

There were 15 abortions, all of which terminated favorably. Not one of them was left to nature, but when satisfied that an abortion was inevitable, the uterus was thoroughly emptied before leaving the patient, generally, with the finger, manual dilatation being first effected, if necessary. Of the 6 miscarriages, in 2 both fetus and placenta were delivered naturally, and both patients lost considerable blood. In the 4 cases of assisted miscarriages, no blood was lost during or after the operation.

Forceps were employed in 31 cases. In 2 cases the fetus had been dead for some days. The remaining 29 babies lived, and all the mothers made good recoveries. Thirteen suffered more or less from perineal lacerations and 4 had post-partum hemorrhage. Thirteen cases were low forceps, and, undoubtedly, in several of these delivery would have taken place naturally, if let alone. It may be pointed out that of the 12 cases of easy delivery there resulted a laceration of the perineum in 3 cases, and a post-partum hemorrhage once, which percentages are lower than for the same accidents in the cases of unattended labor.

There were 8 cases of podalic version; of these one mother died of probable rupture of the uterus, and 4 of the babies succumbed; 3 of these, however, had feeble pulses before the operation was begun.

Craniotomy was performed but once, and then after fracture of a parietal bone with the high forceps. Labor was induced twice, once at the 8th month in a case of mitral disease with acute pulmonary edema, and the second time for eclampsia, with a successful issue in both cases. Eclampsia occurred in two other cases, once after labor, and in the second the child and placenta were expelled with the

first convulsion. Both the mothers and the children were soon strong and well. In a fourth case there was profound uremia, but no convulsions; the patient was nearly comatose during the labor, which was hastened with forceps. This same patient has since passed safely through pregnancy and labor. There were two cases of puerperal septicemia, to one case the germs were undoubtedly carried by her husband, who had lately been taking care of a case suffering from puerperal fever; he had dug out of her a sloughing placenta, and on the second night of his wife's convalescence slept with her. Two other cases suffered from abscess of the breast, but both recovered after free incision and long continued drainage.

In 10 per cent of the total number of cases there was post-partum hemorrhage amounting to one pint or more. It occurred in 14 per cent of the cases of I-paræ; in 11 per cent of the II-paræ; in 9⅔ per cent of the III-paræ; in 8⅓ per cent of the IV-paræ.

Hemorrhage occurred in 10 per cent of the cases where forceps and ether were used; in 5 out of the 8 cases of version and ether; in 22 per cent of the cases where the child was born without assistance; in 20 per cent of the cases where anesthetics were used in normal cases; in 5 per cent of the perfectly normal cases without anesthesia. In only one case was there any approach to a serious result.

There were 39 cases of lacerated perineum, including those cases where even the internal ostium vaginæ was torn; 69 per cent of them occured in I-paræ, the delivery being natural in 48 per cent of these, instrumental in 52 per cent; of the remaining 31 per cent, one-half of them occurred in women unattended, and one fourth each in operative cases and natural cases. Three were lacerated through the sphincter, 5 to the sphincter, 9 one-half way to it, 11 slight external laceration, 9 slight internal laceration. All were repaired, with tho result that 16 united, 3 did not, 6 partly united, and 8 are not reported.

Of the 200 mothers, one died (version). Of the babies, all of the premature babies (8) died; 4 of the 8 delivered by version died; 1 was sacrificed to craniotomy; 3 were stillborn; 2 died of marasmus, 1 of hemorrhage from mouth and rectum, and one from hemorrhage per urethram.

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### The "Times and Register."

In union there is power. The spirit of combination is extending in medical journalism. The Philadelphia *Medical Times, Medical Register* and New York *Dietetic Gazette* are being issued as one journal, under one management, under the title of the *Times* and *Register*.

Dr. Wm. F. Waugh, the editor of the *Times* assumes editorial charge of the combination journal which is issued in the familiar form of the *Register*.

We are glad to learn that Dr. Shoemaker hopes to continue a journalist as long as he lives, and that when other promised literary duties are performed he will return to active work upon the *Register*.

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### The "Kansas Medical Journal."

We welcome to our exchange list this new medical monthly. It comes to us with a clean face and clear type. It has such a modest air of business that but for the editors' salutatory one would scarcely suspect that it was not "old in the service." Its Editorial Committee is composed of Dr. W. L. Schenck, of Osage City, and Drs. J. E. Minney and S. G. Stewart, of Topeka, Kan., who are well-known by the profession in the West, and we unhesitatingly say that we believe this is one of the new medical journals that has "come to stay."

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### Hot Water in Eye Diseases.

In a paper on this subject published in the K. C. *Med. Record*, Dr. Minney, of Topeka, states that in the treatment of about one hundred cases of eye troubles he has tested the relative efficacy of hot and cold applications. "As a rule, the pain was more readily controlled with hot water; the recoveries were more rapid and the treatment more satis-

factory in every way than by the use of cold water." In a small number of cases, however, the hot water was not tolerated and cold water gave relief.

In heat and cold we have too remedies that are potent alike for good and bad; each acts as a stimulant or sedative according to the method in which it is applied. For this reason there can be no set principles to guide us in the application of either remedy. Less harm is likely to arise from the application of heat than of cold. It is very rare that we meet with cases that will tolerate the alternate use of the two. It is said that every physician has his hobbies; mine is, don't apply poultices to the eyes.

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### Cactus Grandiflorus.

Dr. C. L. Gregory, of California, writes the *Med. Reg.* that the tincture or fluid extract of a recently gathered cactus grandiflora is a most excellent heart tonic. He gives a report of three cases of dilatation due to valve disease, in which most excellent results were obtained. He gives three or four drops of the tincture three or four times a day and continues it for months, if need be.

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### Cincinnati Hospital Report.

There were four thousand, one hundred and twenty-five patients treated in this hospital last year, among whom the mortality was seven and eight-tenths per cent which was about one per cent less than the year previous.

One striking feature of the report is that the average residence, in the hospital, of the eye patients was much greater than any other class of cases. This is probably due to the fact that persons with defective vision are less able to earn their living than convalescents from other diseases than those of the eye, and the hospital in some degree takes the place of the poorhouse.

The report gives fifteen deaths from pneumonia with various complications and thirty-one uncomplicated cases with only one death. The per cent of deaths from typhoid fever was about ½ of that of the year previous.

This report bears evidence of careful compilation.

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### Longevity of Microbes.

Micro-biologists have not yet been able to decide the important question as to how long micro-organisms retain their vitality. Their wonderful proclivity to proliferation leads us to suppose that the life of one of these minute bodies is not longer than a few days or a few weeks at most, but clinical facts do not support this supposition. It is well known that the poisons of scarlet fever, measles, diphtheria and other diseases may remain active for many months in rooms that have been occupied by patients suffering from these diseases. Fortunately, our present method of disinfection gives a solution to the question as to how long such rooms should remain unused.

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### How was the Deafness Produced?

Dr. Penrose, of Philadelphia, relates (*Med. and Surg. Report.*) an interesting case that came under his care. The little finger of the right hand of a woman was bitten by a dog. The wound did not heal, but in a few days presented a gangrenous appearance. Pain was intense and continuous from the beginning, shooting from the finger along the arm to the right ear. Tinnitus aurium appeared, followed by complete deafness on that side. On the sixth day symptoms of trismus appeared. The wound was kept thoroughly clean and moistened with bichloride solution, and the patient given large doses of bromide of potash internally. No improvement having occurred at the end of ten days, and tinnitus in the left ear similar to that which preceded the total deafness in the right ear, the finger was amputated. The pain and trismus disappeared the following day, but the tinnitus and deafness were present two months after.

Dr. Pollak, of St. Louis, relates a case in

which a child, while playing, was seized with a "crick in the neck." A strong man who was present endeavored to cure the "crick" by placing his hands, one on either side of the child's head, and lifting the little fellow from the floor, giving it a thorough shaking. The child became, instantly, totally deaf and never after recovered its hearing. Query: How was the deafness produced?

The careless habit of suspending children by the head is a bad one. Death has been the result of this sport (?) by rupture of the transverse ligament and dislocation of the adontoid process of the axis against the spinal cord.

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### Sexual Instinct in Females.

Dr. D. Armond, of Iowa, writes the *Med. World* that the crying evil of our time is not that the sexual propensity is too great, but it is that the home teaching and the home information that is so necessary for the guidance of the rising generation is neglected. The girls do not need to be taught that it is indelicate to enjoy the marital embrace so much as they need to be taught that the holiest of missions is motherhood, and that no function or instinct can be abused with impunity.

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### Local Applications in Diphtheria.

A Berlin correspondent writes the *Med. Age* that according to Dr. Henning, the application of lime-water produces the most favorable results even in the grave and septic forms of diphtheria. The mode of application is to have the patient gargle with pure lime-water at intervals of one quarter to one-half hour, and in taking a draught of lime-water after each gargle. Children too young to gargle are given the drug internally in larger quantities. Dr. Henning also applies ice-bags to the neck and gives chlorate of potash internally. He claims to have used this treatment successfully in 1,054 cases and regards lime-water as a specific against the disease.

A successful and highly respected practitioner of this city says he has applied locally and given internally a solution of boracic acid and hydrastin in 84 cases without the loss of a case, and that, too, when patients were dying of the same disease in the hands of other physicians.

In this issue we give an article on gastric diphtheria which indicates that if there is a specific germ that produces this disease medicines should in every instance be given internally as well as applied locally.

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Foreign Body Removed from Vitreous by the use of the Magnet.—Dr. Wadsworth reports a rather unusual case in the *Bost. Med. and Surg. Jour.* A workman, while striking a chisel with a hammer, felt something strike his left eye. He had no special pain either at the time of afterward. When examined sixteen days after the injury, there was a small scar in the cornea, a wound in the iris and a broad line of opacity running backward through the lateral part of the lens; vitreous comparatively clear; on movement of the eye a foreign body could be seen with an ophthalmoscope. An incision was made and the point of an electro-magnet introduced into the vitreous chamber, and the third attempt brought away a small piece of steel. No resection followed, and four weeks later the patient had perfect vision in the eye.

As a rule, such foreign bodies in the vitreous create so much irritation that at the end of two or three days the vitreous is very hazy and the piece of steel becomes covered with inflammatory exudation so that the magnet has no effect upon it. Generally, too, the rent in the capsule allows the aqueous to be absorbed by the lens substance, which swells, bursts the capsule and becomes dissolved.

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### Diplococcus Pneumoniæ.

A case was reported by Prof. Bozzolo, in Turin, in which a man suffered from acute fever with chills, accompanied by icterus, pains in the back of the neck, delirium and

vomiting. The patella reflexes were wanting and the liver and spleen were enlarged. The diplococcus pneumoniæ was found in the blood, and the physical signs of pneumonia being absent, a diagnosis of cerebro-spinal meningitis was made. The patient died and the necropsy verified the diagnosis.

If it has been proven that the presence of this micro-organism in the blood is evidence of the existence of one or the other of the two diseases mentioned, and that it has no power to produce any other disease, then its discovery is of practical importance. But the two diseases are so widely different that it seems rational to suppose that if one kind of germ produces them both, then it is also capable of producing inflammations in other organs of the body.

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### Prolonged Gestation.

L. Mervin Maus, Asst. Surgeon, U. S. A., reports a case, in the *N. Y. Med. Jour.*, in which a woman, æt. 29 years, was delivered of a healthy child on the three hundred and thirty-fourth day of gestation. The initiatory symptoms which indicated that conception had taken place are given and they justify Dr. Maus' conclusions as to the length of the pregnancy.

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### The Johns Hopkins Hospital.

The provisions of the will of the great philanthropist, Johns Hopkins, are being carried out in the construction and equipment of a splendid hospital for which purpose he left about three and a half millions of dollars. Some idea of the magnificence of the structure is given by the estimation that eight hundred persons can be comfortably seated in the rotunda of the building. Dr. Wm. L. Halstead is to have charge of the hospital.

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### MEDICAL ITEMS.

The *Ind. Med. Jour.* says that Indiana is now the "dumping-ground for all the quacks in the universe."

The Canada *Med. Rec.* says that if men admired women of natural shape more than thin-waisted girls, the markets would soon cease to supply corsets.

We learn through the daily press that in Union County, Tennessee, in one week, six mothers gave birth to fifteen babies all of whom are "living and doing well."

The Deutche *Medizinal Zeitung* says that no other country in the world has as many physicians in proportion to the population as has the United States. According to the latest statistics, the proportion in this country is one to eight hundred and twenty-five.

Sir Spencer Wells says that previous to 1855 the death rate in reported cases of ovariotomy in Spain was 55 per cent, which is probably not much larger than it would be anywhere if operations were done by men of very small experience, some of them, as in Spain, not having operated more than once or twice.

A London correspondent writes to the *Journal of the A. M. A.*: A communication has been made by a well-known oculist of Cronstadt concerning the bad influence of the electric light upon the eyes. There have come under his observation within the past ten years thirty people suffering from a disease of the eyes. The symptoms were the same in each case, and all the patients had perforce of their employment been accustomed to remain for hours at a time near electric lighting apparatus. The new disease is called photo-electric ophthalmia. The patient is apt to be wakened in the night by great pains around the orbits, accompanied with an outpouring of tears. Intense photophobia is another characteristic of the malady.

Cocaine in Cancer.—Dr. J. T. Somerville writes to the *London Lancet* concerning the marked efficacy of a cocaine ointment (1—20) for the relief of the pain of cancer. The case was that of cancer of the breast, recurrent

twelve months after an operation performed for its removal. The disease was so far advanced when it again came under observation as to render the case hopeless. Three months before the end intense pain set in. After trying the usual remedies ineffectually, the above ointment was used, and with marvellous effect; the pain was subdued almost immediately and continually kept under by its use. It was used for two months and during that time there was no occasion to increase its strength.

## SELECTIONS.

### DILATATION VERSUS CASTRATION.

The safety with which laparotomies are practised at the present day, has made exploratory incision take the place of other methods of diagnosis, and the removal of the affected organ follows almost as a matter of course.

We occasionally hear of an exploratory operation terminated because the surgeon recognizes the impossibility of successful result, but how seldom do we hear of an operation abandoned because the disease is found to be amenable to less radical treatment than removal! There are laws, both State and professional, against those who destroy fetal life, except in certain well recognized necessities: there seems to be honor, both social and professional, for the surgeon who renders fetal life impossible by operations whose necessity is determined either by himself alone, or what is worse, by the patient. There is more need for conservative gynecology now than there was for conservative surgery in years gone by.

The removal of the uterine appendages for reasons both good and bad has become so alarmingly frequent in recent years, that a well marked reaction against the operation has set in. Any other means of relieving salpingitic accumulations which shall be as safe to the patient as Tait's operation and at the same time free from the obvious objections to the latter should receive careful attention

It is with special interest therefore that we read a contribution to this subject made by Dr. Doleris in a recent number of the *Journ. de Med. de Paris.*

He advocates the evacuation of fluids encysted in the Fallopian tubes by dilatation and drainage of the uterine cavity, in cases which are not septic in their origin. With reference to the latter, he admits in general the propriety of ablation, but nevertheless calls attention to the fact that many chronic accumulations, undoubtedly septic at the outset, lose their virulence as time progresses, just as do certain chronic abscesses. That removal of the affected organs is not the only mode of relief is shown by instances in which spontaneous evacuation has taken place at the menstrual epoch, or as the result of traumatism or some physical shock. Recorded instances of supposed ovarian cysts which disappeared coincidently with a profuse discharge from the uterus belong to the same class. More frequently an intermittent flow has been observed for periods of several years, accompanied by corresponding changes in the volume of the accumulation. What comparatively simple operations have sufficed is shown by the successful results obtained by incision and drainage of the tumor. Many cases diagnosed as hematoceles and periuterine phlegmons and evacuated by incision through the vagina are also regarded by Doleris as examples of tubal disease.

Acute salpingitis is quite commonly followed by spontaneous resolution. In common with the associated affections, metritis, ovaritis and pelvic peritonitis, it may yield to the usual antiphlogistic treatment when faithfully carried out. There remains a tendency to slight relapses for a few menstrual epochs and a persistence of more or less structural change in the tissues, but all this is compatible with a very satisfactory state of health. The most formidable residuum is sterility, and even this is often but temperory.

When chronic salpingitis supervenes, unless due to certain degenerative changes, either primary or secondary, such as tubercle, papilloma, carcinoma, or syphilis, the most

common cause of the formation of cystic accumulations is the existence of mechanical obstruction of the oviduct at its uterine extremity. This obstruction may be due to fungoid vegetations of the mucous membrane of the uterus or tubes, or to an atresia of the uterus itself, due sometimes to a temporary spasmodic flexion, but more often to a permanent flexion of the organ. This condition Doleris treats by dilatation of the uterus, curetting of its cavity, and the establishment of drainage. The steps of the procedure are as follows: After preliminary dilatation with disinfected laminaria tents, the cavity of the uterus is distended by the use of a series of sponge tents carefully prepared and dipped in sublimated ointment 1-1000, until it will admit one finger readily. This requires several days. The entire cavity of the uterus, but more especially the cervix and the situation of the Fallopian orifice, is then thoroughly scraped with the curette to remove any trace of fungoid growth. This is practised with the usual precautions of irrigation and swabbing. When the cavity is thus prepared it is firmly packed with iodoform gauze well soaked in glycerine. This should be done thoroughly, so as to maintain or even increase the degree of distention obtained by the sponge tents. The tampon is removed every day, or at least every other day, until bimanual examination shows that the pelvic tumor has disappeared. When this occurs the quantity of gauze is progressively diminished at each dressing, it being unwise to suddenly remove the pressure. The after treatment consists in daily irrigations of the vagina with antiseptsc solutions, followed by a tampon soaked in glycerine with the addition of five per cent of iodoform.

When failure occurs it is usually due to the patient having resumed her ordinary habits at too early a date, or to a failure to take proper precautions at the succeeding menstruation. The uterus must undergo a sort of involution and until this is accomplished fatigue, coitus and sudden exertion should be avoided. The next menstrual period should be passed in bed. Finally it is essential to treat by appropriate measures any chronic inflammatory condition of the uterus or stenosis of its lumen.

The author attributes his results to the shortening and widening of the intra-mural portion of the tubes, which is produced by the distension and thinning of the uterine wall, the relaxation of spasm and improved vascular supply as an indirect result, and lastly the local effect of the glycerine.

This procedure deserves a trial in cases which arise from the existence of a catarrhal salpingitis, and in which there is a fair chance that the evacuation of the contents and the removal of the exciting causes will result in re-establishing the lumen of the tube. And even though complete functional activity should not be restored, the patient will escape the multilation which is after all a more serious matter to the patient than it seems to the operator.—*Internat. Jour. of Surgery.*

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## PATHOGENIC PROCESSES AND PATHOGENIC THERAPEUTICS.

It has been often said that the practice of medicine is based on empiricism. Medicinal agents have been given, not because it was known how they benefit, but because it was known that they do benefit. It was an accident, a process of empiricism, that first led to the discovery of the purging property of jalap and senna, the anti-malarial property of quinine, the antisyphilitic property of mercury. The word property is the fitting word here to employ; it has been, and is largely now, the final answer to the question how medicines act when administered for certain ends. The ascription to opium of a virus dormitiva by Moliere's medical student was then the most scientific explanation that could be given as to how opium causes sleep; nor can we, even at the present day, add much to that explanation; we can simply be a little more explicit as to the action of opium on the nervous centers, on the vaso-motors, and on the movements of protoplasm, and we can, in a measure, ascribe to the different alkaloids of opium the part which severally be-

longs to them in exciting or inhibiting functions. So with regard to quinine. We may not be able to dispense with the old explanation of its modus operandi, but we can add that it (probably) antagonizes certain pathogenic microbes. That this is an advance on the ignorance of the past, no one will dispute.

The dominant tendency of the present epoch is to regard disease and its treatment from a pathogenic point of view. That the truer notions which we are slowly acquiring as to the origins and modes of disease are destined to be fruitful in therapeutic results, will be conceded by every one who has kept up with the progress of the times. The constant endeavor of the future will be to substitute positive pathogenic notions for the hypothetical systems of the past, nor will specious formulæ much longer fool intelligent men.

It might seem as though the task which medical science is now undertaking of finding out the special pathogeny of each disease with reference to instituting a system of pathogenic therapeutics is one demanding ages of study and research, but we should remember that if morbific causes are innumerable the number of pathogenic processes is limited. Charles Bouchard, whose utterances always deserve respectful attention, sums up these processes under four heads:

1. There are morbid processes which result from antecedent disorders of nutrition. Nutritive imperfection (errors in cellular life in the processes of assimilation and disassimilation) becomes disease when it passes beyond certain limits. Just as the degree of metamorphosis varies, so the quantity of matter transformed in a given time may vary, even in health, but there is a point where either excess or deficiency of transformation constitutes disease. Maladies of nutrition are especially chronic maladies; such are gout, obesity, diabetes,hepatic lithiasis, renal lithiasis.

2. Mechanical, physical, and chemical causes may affect directly the cells of an organ, or of the entire organism, and produce, without any antecedent modification of nutrition, without the necessary intermediation of the nervous system, a disturbance of life, of nutrition and function. This constitutes a group of diseases of which traumatisms and poisonings are the principal types.

3. Morbific causes may also disturb the nutrition and function of the cells in an organ or in an assemblage of organs indirectly, through the mediation of the nervous system. In others words, certain pathological results may be brought about by nervous reaction—trophic or vaso-motor nerves, nerves of sensation or motion, or of the special senses, being more or less permanently affected. Such effects may be produced by shock, emotion, injuries of nerves; and paralysis, chorea, epilepsy, hysteria, neuralgia, etc., may be among the symptomatic manifestations. We generally find in these cases an association of two or more of the fundamental morbid processes here outlined.

4. The fourth mordid process is indicated by the name infection. A micro-organism,by its presence, or indirectly by the ptomaines which it secretes, may cause serious distubances in the organism. It is only of recent years that the attention of pathologists has been seriously and fruitfully directed to this factor of disease.

It is essential as the basis of rational therapeutics that these morbid processes should be well understood. Too much emphasis at the present day is placed on the one factor of infection. To little account is taken of morbid predisposition, of diathesis, which imply antecedent troubles of nutrition. Thus, there are physicians who are content to treat gout medicinally, *i. e.*, by lithia and other alkalies, and diabetes by bromides, codeia, and other pharmaceutical remedies, forgetful of the fact that they have a vicious constitutional habit to treat, and that while sound hygienic therapeutics can do something to remedy this vicious modality, medicines have but a transient effect, and can only aid the cure which must be brought about mainly by other agencies.

Moreover, in the warfare with the infectious diseases, the microbe is only one factor, and the condition of the organism invaded, *i. e.*, the culture soil, is equally important.

Thus, it is axiomatic that a state of health (derangements of nutrition) are favorable to the development of the infectious agent. Hence rational therapeutics will not trust too much to germicides and antiseptics in the treatment of infection, but will also aim to render the organism impregnable.

Our knowledge of the agency of microbes in disease has of late been enlarged by the data which we now possess respecting some of the modes by which infectious micro-organisms produce disease. In the case of many diseases, it is not so much the microbe that does harm, as the poisons (ptomains, toxines) which it secretes. Here, then, the therapeutic point of view changes, for we are not wholly concerned with supporting the organism or antiseptically destroying the microbe; a more prominent indication even may be to combat and neutralize the chemical poison which the microbe produces. If the poison is secreted upon an accessible surface, we may be able to evacuate it or precipitate it, and prevent its absorption. If the abscrption is already effected, or if the poison has been first fabricated in the recesses of the tissues, we may still be able to reach it and effect its destruction by increasing the combustions of the economy, compel its elimination by the emunctories, or at least combat its physiological effects by the administration of antagonistic remedies.

These considerations are sufficient to indicate the complexity of pathogenic therapeutics when properly understood..—Ed. *Bos. Med. and Surg. Jour.*

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## THE OPERATIVE TREATMENT OF PROLAPSE OF THE RECTUM.

In a recent contribution (*Archiv. f. klin. Chirurgie*, Band xxxviii., Heft 1) Dr. J. Mikulicz, of Konigberff, describes his methods of dealing with prolapsed rectum, and puts on record seven cases in proof of its safety and efficiency. Of prolapse of the rectum there are, it is pointed out, three forms. The first and simplest of these, prolapsus ani, is a mere ectropium of the mucous membrane of the rectum in which the other coats of the gut, especially the muscularis, are seldom involved. In the second form, that of true prolapsus recti, the protrusion consists of all the coats of the intestine and, like the invaginated portion in intussusception, presents on section two tubes of intestine, one within the other, and in contact by their serous surfaces. The third form, to which the name is given of prolapsus coli invaginati, is really intussusception of some part of the colon, and may be readily distinguished from the other forms by the fact that the external layer is not fixed to the anus, and that the finger can be passed into the rectum by the side of the protruded mass.

In cases of chronic prolapsus recti, with ulceration and gangrene of the exposed mucous membrane and a persistent tendency to further protrusion, excision of the protruded portion of the intestine is, according to Mikulicz, the most suitable treatment. The limited excisions devised by Dieffenbach and Dupuytren are, it is stated, often useless and do not guard against prolapse, and cauterization, though a milder proceeding, is still not free from risk and may cause stenosis of the anal portion of the gut. Partial excision and cauterization will, it is true, result in contraction of the relaxed and softened sphincter,and of the immediately superjacent portion of the rectum, and the constricted and rigid extremity of the gut will, if the case be a mild one, resist further protrusion from above; but in too many instances the vis a tergo overcomes this resistance and the cicatricial tissue yields sooner or later to renewed prolapse of the rectum. It is necessary, he states, to shorten the elongated and displaced rectum, and, in correspondence with the indition, to resect a large portion of the prolapse. This is held to be the most rational course in all old cases of prolapsus recti, and particularly after relapse.

The operation, described in the paper mentioned, was first performed with success by Nicoladoni, and resembles in some respects one advocated by Esmarch, in which, before resection, the upper part of the prolapsed gut

is fixed tightly by ligature to a bougie introduced into the rectum so as to prevent any exposure of the peritoneal cavity. Mikulicz, after having passed two sutures through the free lower end of the prolapse, in order to stretch and fix in required positions the gut, makes a transverse incision through the anterior layer of the prolapsed mass, about half an inch below the anal margin. The inner tube of the prolapse having been thus exposed, the serous margins of the outer and inner layers are brought together by sutures, in order to shut off the peritoneal cavity. The inner tube having been divided transversely along the whole length of the outer incision and the intestinal canal opened, the cut edges of the inner and outer tubes are then fixed together by a second row of sutures. The posterior surfaces of the tubes are then divided and sutured in like manner, and the whole of the pralapse thus detached. In most cases the peritoneal sac does not descend between the layerrs of gut behind, the space being usually occupied by meso-colon which contains numerous vessels. In this operation Mikulicz insists on the use of silk in preference to catgut for the material of the sutures. —*Lon. Med. Rec.*

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## THE MORPHOLOGY OF RHEUMATIC BLOOD.

BY EPHRAIM CUTTER, M. D.

Color varies from that of health to that of anemia.

Consistency and rapidity, of clotting increased verymuch from that of health.

I. The red corpuscles, color usually impaired, but not always.

Coloring matter not so firmly held as in health.

Adhesive, sticky, often drawn out in elongated, lozenge-shape dbodies, with pointed ends; and sometimes stretched out in filiaments joining with one or more of their fellows.

Clot in windrows, ridges and huddled masses, sometimes quite formless. This is caused by the massive fibrin filiaments holding them fast, as it were, in their firm meshes and their great adhesiveness, being more or less deprived of their coating of neurine. The same condition is found in consumptive blood, but to a less degree. In fibrous consumption, they are much more marked. It may be remarked here, that this kinship between consumptive and rheumatic blood is due to an acid condition produced by the growth and development of the acetic acid vinegar plant in the blood and in the alimentary canal. When the blood is aciduous to an unusual degree, the adhesion of the red blood corpuscles is increased still more.

II. The white corpuscles, usually enlarged, stick to each other, to the red corpuscles, to the fibrin filiaments and to the form elements. Indeed it seems to be the office of the white corpuscles, so far as possible, to swallow, increase and develop any foreign substance that may find its way into the blood. Thus, we find crystalline bodies in the white corpuscles in rheumatism; though not always. They undergo ameboid movements as in healthy blood. They have independent locomotion. Disease does not seem to impair their automatic movements. Often they are increased in number. Sometimes diminished in number. If there is fatty degeneration going on anywhere in the system, they will usually be found to contain fat in globules.

III. The serum.

A. Fibrin filiaments, in massive and sticky threads in abundance—in meshes which are finer than in health, plainly visible—strong, and hold the red corpuscles like prisoners—in skeins, like the tangled skeins of silk—sometimes in large long cylindrical frayed, sometimes frayed strings wound up like a string round the four fingers, and embracing the other form elements in the blood, in masses forming thrombi, which when fastened in the caliber of a blood-vessel, forming emboli.

These thrombi are apt to involve and embrace white and red corpuscles and crystalline bodies to be named below. When the fibrin filiaments are found in large round strings

handsomely curled up by the motion of the blood stream, and looking like the mycelial filiaments of a vegetation that can be distinguished from vegetation by the absence of entire cylindrical outline—ragged, broken edges, here and there, and bichotomous and polycotomous divisions of the trunk, different from the mycelial filiaments of syphilis for example. It is the presence of these fibrin filiaments, in addition to the stickiness of the red blood corpuscles, that makes the blood ropy, sticky and adhesive in rheumatism. They have the tendency to block up the blood stream, and besides to be locally deposited in and on the adjacent tissues, especially when the circulation is sluggish around the joints, for example.

B. Fibremia. In a nomenclature which was made before the present advance of knowledge there is difficulty to make it fit to the new era. I shall not attempt to relieve this difficulty, but try to adapt the subject to the conventional names, as the object is practical aid in treating diseases, no matter what they may be called.

Febremia is where the fibrin filiaments are in excess, in the form of threads, skeins, massive fibres, straight and curled like strings forming the thrombi and emboli. These are in a more exaggerated condition and form than in consumption or rheumatism. Sometimes the fibers look like the scalp when taken from a woman with long tresses of hair.

C. Gravel of the blood, or crystalline bodies in the blood in rheumatism. These are numerous and readily recognized. Some of them are as follows:

1. Uric acid and urates of soda. 2. Phosphates. Specially the triple phosphates of lime and soda. 3. Oxalate of lime. 4. Cystine. This is quite common and easily detected. 5. Carbonate of lime, rare. 6. Stellline and stellurin. These occur mostly in granular forms in the serum, but in old cases; where the system is satuated, they are crystalline. 7. Black, brown, aniline blue, bronze, orange, red and yellow pigments in the form of flakes or masses are common in rheumatic blood, and may be termed gravelly matters that should have been eliminated by kidneys, bowels or skin, which are the natural outlets for such excretory products.

In fibrous consumption and asthma and hay fever, these gravelly concretions are found in the sputum, as if the air passages were made the abnormal channel of their excretion.

Gravel of the urinary tract, the liver and the gall bladder, of the ducts of the salivary gland, of the vaginal mucous membrane, are examples of metastatic excretion of crystalline bodies from the system, produced to great excess, and thrown off by these vicarious channels.

D. The latent condition of the characteristics of rheumatic blood. The morphological characteristics peculiar to rheumatic blood exist in a latent condition in persons apparently well; but when they are exposed to cold the blood-vessels contract, catch and detain these abnormal elements, and we have a stasis of the blood, which may be active or passive, and manifest itself in heat, fever, pain, swelling, inflammation or passive congestion, effusion, etc., which make up what is known as an attack of rheumatism. The fever may result from the efforts of nature to get rid of the foreign substances and conditions, just as a householder will become hot in expelling from his premises a thief who is difficult to get rid of; or, to use another simile, the attack of rheumatism is like the explosion of a gun, the charge in the gun is the morbid material of rheumatie blood, and the cold is the pulling of the trigger. The charge may be latent in the gun for years, but is there, with its potential energy, ready to become actual from an exciting cause. Just here comes in the practical suggestion; If those who are in health apparently should be examined and find their blood has the morphology of rheumatism in a latent condition or in the pre-rheumatic state, it is a very good time to treat to remove it. As one can draw off a charge from a gun with ease and safety before the trigger is pulled, so is it with the removal of the pre-rheumatic state.

E. Thrombosis: Is where masses of fibrin accrete and consolidate, together or not, the red corpuscles, white corpuscles, crystalline and pigmentary bodies, spores and mycelial filaments of vegetations, one or all.

When one considers that the arterial vessels rapidly narrow into the capillaries, $^1/_{3000}$ of an inch in diameter, and that the thrombi are driven with the rapidity of a race-horse by the pulsations of the heart, it is no wonder that these floating thrombi become plugs or emboli in blood-vessels and disturb the circulation. It is a wonder, rather, that the system can stand them so long.

This is G. Embolism. When the embolus is made up of spores of mycoderma aceti, vinegar yeast, and is caught in the lung tissue, it develops tubercle, and so also in the other parts of the body. (Koch's bacillus is only the baby form of the vegetation of the mycoderma aceti, and has been recognized in this country 20 years or more before Koch discovered it.) So senile gangrene of the extremities is caused by fibrinous clots stopping a blood-vessel.

H. The pre-embolic state. As thrombi precede emboli, so they can be detected in the blood before the embolism, simply by the examination of the blood. Thus sudden deaths from embolism, specially from the puerperal state, may be averted by the adoption of treatment which removes the acidity of the blood, and this aid alone renders the microscope an invaluable assistant to physicians who are devoted to their profession and is sufficient to redeem the microscope from the title of accursed, as given it lately by a divine of New York at a public meeting.

*Remarks.* The relation of the morphology of rheumatic blood and fibremia to disease of the heart is very close, for it is at once evident that increased obstacles to the free circulation of the blood, by the massive fibrin filaments, the thrombi, the emboli, the adhesive white-blood corpuscles, the sticky red corpuscles, the gravel, etc., must make more work for the heart to perform, and thus produce hypertrophy, etc. This is more apparent when one considers that if the capillaries of our bodies could be removed, and joined in one straight line, they would reach more than around our globe. This idea will soon be found elaborated in a work entitled, "Trophopathy in Heart Disease" about to appear.

Again, it is very easy to see how pains in rheumatism can be physically caused by the presence of gravel in the blood, whose sharp angular points must cut the delicate tissues.

"The formation of fibrin or the coagulaulation of the blood only takes place in the vessels when there occurs a slowing of the current or when their is a change in the parietes of the vessels."

The gentleman who made this statement would not have done it if he had been in the habit of studying morphologically the blood of his rheumatic patients for 22 years. The fibrin filaments exist in the blood in health, and the elements referred to in this article have been found in the blood of rheumatics, with regular pulsations, who were aprently in perfect health, but who were really in the pre embolic state. From the rapidity with which these emboli and thrombi disappear from the blood after treatment, there is reason to believe that many of them are dissolved by natural processes, if there is nerve force enough given for this work.

These remarks would not be made had not Bartholow, in the preface to his fifth edition, loc. cit., stated that his work presumes "to represent the present state of medical knowledge."—*Med. Times.*

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## DIPHTHERITIC GASTRITIS OR GASTRIC DIPHTHERIA.

BY TALFOURD JONES, M.B. LOND.

I am desirous of contributing the notes of a very unique case of diphtheritic gastritis or gastric diphtheria which came under my care many years ago, but which have never been published. Cases of true diphtheritic gastritis are very rare; a few have been described by Sir William Jenner, Dr. Wilson Fox, and

Dr. Wilks; but in many works on medicine no mention is even made of such an affection; hence I am led to think that the following case is worthy of being recorded.

F. C., aged 2 years and 10 months, a rickety child, was taken ill with diphtheria on December 1, 1862. On the third day there was difficulty in swallowing; on the sixth she vomited several times; on the seventh difficulty in breathing set in, and she vomited frequently, bringing up each time a little blood and some dark-red pieces of a membranous character; on the eighth day the breathing became worse, and her doctor recommended her to be sent to the Hospital for Sick Children, in Great Ormond street, London. On her way to the hospital she died in her mother's arms, but was left in the hospital, and I made an examination of the body.

The following are the chief points that need to be mentioned now. The tonsils were studded with shreds of a dirty-grey colored exudation about one-twelfth of an inch in thickness. A similar exudation, but more continuous, covered the arches of the palate, the whole of the uvula, and the recess between the base of the tongue and the epiglottis. The membrane readily peeled off, and the subjacent mucous membrane was seen red and congested. There were several irregular patches of false membrane on the posterior surface of the soft palate and on the upper part of the posterior wall of the pharynx. On removing the hard palate and exposing the nasal fossæ, the mucous membrane of the posterior nares was seen lined with a whitish wash-leather sort of membrane, elastic, stretching to a considerable degree, but then breaking off abruptly and with a clean edge. The epiglottis was covered completely on both surfaces with a dirty-grey exudation, which descended and lined the whole of the interior of the larynx, filling up the ventricles and sacculi, but it ceased abruptly at the lower border of the cricoid cartilage. There was no exudation in the the trachea or in the bronchial tubes, but a catarrhal secretion only. The esophagus was quite normal in every respect. The stomach had a soft, semi-doughy feel, not unlike a portion of intestine that contains feces of moderate consistence. On opening the stomach, it presented an irregular dark reddish-brown appearance with a slight olive-green tint. This was found to be the surface of a continuous membrane that lined the whole of the interior of the stomach, but was abruptly cut off at the cardiac and pyloric orifices. The membrane varied in thickness in different places; it averaged about one-twelfth of an inch; over the rugæ it was one-eighth to one-sixth of an inch, or more; in some of the sulci between the rugæ it was less than one-sixteenth of an inch.

The sites of the rugæ were well seen, and marked by thick elevated longitudinal ridges of the false membrane. The membrane was adherent to the mucous surface of the stomach, but it was easy to separate it and peel it away. The under surface of the membrane was marked with depressions, elevations, etc., which corresponded to similar markings on the subjacent mucous membrane, and it was of a dark venous-red color, without the green tinge of the free surface. The membrane was continuous, and might probably have been completely stripped off in one large piece. Except in thickness and color, it differed but little in consistency, elasticity, and fracture from the exudation in the fauces and nares.

On peeling off some of the exudation and exposing the mucous membrane, the latter was seen of a dark-red color and glistening; it was entire, not abraded or ulcerated; it was soft, but without any mucus.

On separating the rugæ, which was readily done by simply stretching the stomach, the spaces between were found of a much lighter color, but studded with innumerable red points. The rugæ themselves were very dark, with a black-currant-jelly-like color, and studded with dark-red punctiform injections from a pin's point to a pin's head in size, round and circumscribed; some had coalesced, as it were, and formed dark-red spots as big as a split pea.

The intestines showed no trace of disease.

There was some pulmonary collapse, some emphysema,and some lobular pneumonia. The renal tubules and cells contained an excessive quantity of granular matter. The urine in the bladder was found to be loaded with albumen, and there was much renal epithelium and granular casts in it.

The exudation from the stomach under the microscope presented an irregular, fibrillated, and reticulated appearance, not unlike simple coagulated lymph, and was rendered transparent by acetic acid. Intermingled were numerous red blood-discs and numbers of cells about the size and shape of white blood-corpuscles, granular, and in many distinct nuclei were seen on addition of acetic acid. Here and there was a columnar epithelial cell. A separate scraping from the free surface of the exudation showed numerous columnar epithelia, free nuclei and granules, and a few starch granules. No sporules or mycelia could be detected, and no sarcinæ.

The morbid specimens, together with the notes of the case, were given by me to Sir William Jenner, who was then lecturing on Medicine at University College, and they were shown by him to his class. He considered that the gastric exudation was a remarkable example of true diphtheritis of the stomach.

The terms "croupous" and "diphtheritic" have been used with varying meanings. In the last edition, quite recently published, of Dr. Frederick Roberts' work on Medicine, he says: "Some pathologists regard diphtheritic as differing from croupous inflammation, in that a fibrinous exudation forms not only upon but also in the substance of and beneath the mucous membrane, which as a consequence is destroyed and converted into a slough, and an ulcerated surface is left on separation;" and he says, "the reality of this distinction is very questionable."

My case shows at least that in the stomach there is room for doubting this difference, for the exudation was undoubtedly diphtheritic, yet it presented the character of a croupous membrane, inasmuch as it was deposited on the mucous surface in a manner in no way differing from so-called croupous deposits.—*Brit. Med. Journ.*

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## THE TREATMENT OF SCABIES.

BY JAMES C. WHITE, M.D., BOSTON.

I generally employ in dispensary practice the following method, and may say in advance that it is applicable in every case, however extensive or severe may be the accompanying inflammatory processes. I prefer a mixture of the three active agents(a scattering shot), and combine them in this way.

℞. Sulph. flor., - - - ʒij
β-naphthol, - - - ʒj
Balsam. Peruv.,
Vaseline, *aa* - ℥j M.

This qantity is generally sufficient for the cure of a single case. The patient is directed to rub a third of this mixture into the whole surface of the body, from the neck downward, at bedtime. He is especially told to rub it between the fingers and upon the penis, and that it must be applied to the back by some other person. He is to sleep in old garments, that the bedclothes may not be soiled. In the morning the skin is to be thoroughly washed with soap and water. The use of the bath in this class of patients is of course out of the question, nor is it essential. The ointment is to be used in this way for three consecutive nights. Generally th itching ceases almost wholly on the first application. The patient is also told not to use it after the third night, unless, after waiting two more nights, there should be a decided return of the pruritus here or there, in which case the salve is to be rubbed into such parts only, and only for two nights running. For very young children I omit the naphthol in prescribing the ointment, on account of its occasional irritating properties.

In cases where the accompanying eczema is severe, it is well to require an inspection of the patient again on the sixth or seventh day, when it will sometimes be found necessary to direct a course of treatment addressed to this residuary condition. A very frequent mistake

on the part of the physician or patient at this stage is the conclusion that the appearance,or accompanying itching, or signs of the continued activity of the original affection, and the consequent renewal of the use of the stimulating parasiticide, which only aggravates the existing process. I have often seen cases of post-scabietic eczema in dispensary and private practice, which have been kept going for months by such errors of judgment. It must also be remembered that in prolonged cases of itch the cutaneous nerves have acquired, as it were, the habit of demanding to be scratched, and seem to require it for a long time after every visible sign of the disease has disappeared, and these cases of surviving pruritus are often mistaken for remaining evidence of the original affection, and mistreated accordingly.

Directions are always given that on the first night of the treatment all the clothes which have been worn next to the skin—shirts, drawers and socks, and the sheets and pillow-cases last slept in—shall be thoroughly boiled before being used again. Gloves should be baked or destroyed. It is to be assumed that every bed-fellow has the disease also, and requires treatment as much as the patient. Every member of the family should also be inspected and treated in the same way, however slight in character or extent may be the indications of the affection. I have seen the disease keep up a continued and alternating existence in a large family for a year, during which period nearly all its members underwent treatment one or more times, simply because they were not treated simultaneously. I have recently directed five members of a private family to be thus generally treated, although only two of the household at that time presented any positive indications of the presence of the disease.

As to the more general control of the affection in its well-nigh epidemic state of prevalence, it is only by drawing the attention of the profession to this activity, and to the best methods of destroying it in individual instances, that we may hope to accomplish anything, and it is for this purpose that I offer this brief contribution to your notice.—*Bos. Med. and Surg. Jour.*

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## CHRONIC ARSENICAL POISONING.

In the *Boston Med. and Surg. Journ.* for March 7 and 14 of the present year is an article by Dr. James J. Putnam, of Boston,who is already specially known to the profession for his valuable researches in chronic metallic poisoning, which suggests that in many regions of the United States there are occasional cases occurring whose true nature ought to be made out, but is, in fact, not discovered.

In twenty-five years of practice in and haunting of hospitals in Philadelphia we have never seen a case of chronic arsenical poisoning diagnosed, except when the poisoning was due to the introduction of the metal by the mouth, and yet Dr. Putnam in the course of a comparatively short period has seen 26 cases of poisoning from the inhalation of emissions from arsenic wall-papers. If Massachusetts were the land of Erin, and green was the national color, patriotism evincing itself by verdant walls might in some way explain the discrepancy, but we know of no reason for supposing that the arsenical colors please the esthetic eye of the Bostonians any more than they do the untutorted mind of the Philadelphia savage, and we can perceive no grounds for believing that chronic arsenical poisoning is more frequent in one city than the other.

The suspicions excited by Dr. Putnam's paper are confirmed by our noticing in the *Brit. Med. Jour.* of March 19, 1889, that the occupants of two certain bedrooms constantly complained of headache, nausea, lassitude, and that the wall-paper was found to contain an exceptionally large quantity of arsenic, and recovery followed the changing of the paper.

Under these circumstances it becomes a matter of the gravest importance to make out if possible the characteristic symptoms of chronic arsenicalism, or at least to discover something which will serve to arouse suspicion when present in a chronic case of dis-

ease. Many years ago Kirchgasser called attention to a peculiar browning of the skin, especially of the face, as indicative of chronic arsenical poisoning, and the same writer asserts that a periodic recurrence of the symp toms is frequently seen, suggesting the intermittence of malaria. Cerebral symptoms, such as vertigo, impairment of memory and mental endurance, and, rarely, epilepti-form seizure, are met with in cases of chronic arsenical as in lead poisoning, and may be suggestive if not characteristic, provided other causes can be excluded. Fever of a low grade, albuminuria, with casts, and sometimes blood in the sediment, are other symptoms which might arouse suspicion. We think indeed that in every case of acute albuminuria search should be made for the possible presence of arsenic in the urine, unless circumstances surrounding the case clearly point to some other cause. Putnam calls attention especially to neuritis of sufficiently advanced type to cause changes in the electrical reactions, diminution of cutaneous sensibility, and impairment of motor power or co-ordination as especially indicative of arsenical poisoning.

Neuritis is, indeed, an affection which is so commonly dependent upon the presence of poison in the system that it should always cause a careful searchfor the probable toxemia. In the majority of cases it is due either to gout, rheumatism, lead or arsenic; very rarely to syphilis. The symptoms of local irritation of the alimentary canal are also frequently present in arsenicalism. A symptom which was quite marked in some of Dr. Putnam's cases was swelling of the sublingual and submaxillary glands, evidently connected with congestion of them, and accompanied by excessive salivation, increased by mastication. Nausea, diarrhea, and abdominal pain are not rare symptoms. In some cases sore-throat, cough, general debility, feverishness, anemia, obscure failure of health, and even glandular enlargement about the neck were the only manifestations produced by the poison which was sapping the vital strength. Periodic attacks of violent gastralgia seem to be not rare.

In the case of an infant reported by Dr. Putnam. refusal of food without apparent cause was the only symptom. In another instance a young lady became extremely anemic and suffered from repeated attacks of diarrhea. In another case prostration, insomnia, and indigestion were almost the sole manifestations. In this case the peculiar silvery coat upon the tongue, said by some physicians to be almost characteristic of chronic arsenicalism, was well marked.

It is evident that there are no symptoms in chronic arsenicalism which are constant, and none which are absolutely characteristic. In this, as in other toxemias, the thing which ought to excite suspicion and cause a very careful search is not the presence of this or that symptom, but the irregularity of the progress of the case, and the failure of the array of symptoms to conform to the type of any ordinary disease. The only safeguard for the practitioner in chronic diseases is a perpetual mental alertness, a habitual, thorough search into the surroundings of every patient who offers an obstinate irregular chronic disorder without obvious explanation.

In all the cases reported by Dr. Putnam arsenic was found in the urine; and in any individual case the diagnosis must rest upon a chemical study of the urine. It is worthy of record that in one or more of the cases the source of the poisoning seems to have been the paper on the walls which had been covered over by other paper—another instance of the bad result of the filthy habit, so prevalent in America, of putting paper on paper upon walls in order to save the small expense of removing the old paper. The habit is comparable to stealing pennies off of dead men's eyes, or to the economy of a recently-deceased Philadelphia millionaire who always carried an envelope in his pocket in which to put the half-chewed cuds of tobacco to save for another time, so that he might get along upon the five cents a week which he allowed himself for tobacco.

The following bearing upon the time at which the elimination of arsenic ceases after

its ingestion, seems to us worthy of being copied in full from the paper of Dr. Putnam:

"Even Taylor ('On Poisons'), while asserting the general princible of rapid elimination, admits by inference that the process may be delayed if the eliminating organs are working as they should.

"1. Two cases have already been reported (Cases 6 and 8) where the elimination was apparently going on for seven to nine months after cessation of the exposure, though it must be admitted that this class of cases is not suitable for conclusively settling such a point. The steady improvement and eventual recovery of the patient seemed to indicate that the real cause had been found, but it is possible that absorption went on for a time from the accumulations in the air of the house, or in the form of dust.

"2. A similar case to these, with elimination continuing for three months, is given by Kjellberg.

"3. A case of poisoning from medicinal doses is cited in a paper previously published by myself, where the arsenic did not disappear from the urine for nearly fifty days.

"4. A case is reported above (Kirchgasser) showing that the feces may contain arsenic after elimination by the kidney has ceased.

"5. The most important case is one given by Gibb in the 'Transactions of the Pathological Society of London,' where traces of arsenic were found in the liver and bones six months after cessation of a long course of medicinal treatment which had led to paralysis and eventually to death.

"6. One reason, perhaps, that it has been so strongly asserted that arsenic does not accumulate is that it has been supposed that arsenic did not form definite compounds with the albuminoid tissues of the body. This view is, however, disproved by the recent experiments of Dogiel, the last series of which are reported in the 'Transactions of the International Congress at Copengahen in 1884.' "—*Ther. Gazette.*

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A Russian View of Tight-Lacing.—Dr. Boris I. Kianovsky has recently carried out a series of experiments in Prof. V. A. Manassein's clinic with the view of ascertaining the influence of tight-lacing on the vital capacity, the movements of the thorax, the energy of inspiration and expiration, arterial tension, pulse and respiration. The experiments were made on 30 female patients, between 18 and 44 years of age, of whom 28 were more or less inveterate tight-lacers (8 of them since the 11 or 12 year.) The following is a summary of the result:

1. The corset lessens respiratory movement of the thorax, and diminishes the vital capacity as well as the force of the inspirations and expirations, the inspiratory movements being particularly affected.

2. The thorax being compressed and the amount of the inspired air being diminished, the corset necessarially gives rise to chronic "oxygen starvation," which is one of the essential causes of dyspnea and cardiac palpitation on brisk walking, fatigue being soon felt on physical or mental exertion, loss of appetite, faintness, and other kindred symptoms, such as are usually associated with tight-lacing.

3. The arterial tension falls on putting on a tight corset, and in habitual tight-lacers it is generally below the normal standard, in "consequence of arterial anemia."

4. The effect of stays on the frequeney of the pulse and respirasion is well shown by the following experiments:

The women were made to run a distance of 980 feet with moderate swiftness without corset and light-laced, all other conditions being identical. After a run without corset the pulse was found to be 136, 140, and 156, and the respiration 32 per minute. In the same women tight-laced the pulse was found to be 144, 160, 176, and the respiration 48, 60, 64, per minute. Among 38 wearers of stays, movable kidney was present in eight, habitual constipation or gastro-intestinal catarrh in 14, disease of the apex of the lung in six, anemia in five, hysteria in five.

Dr. Kianovsky gives a fairly exhaustive review of the work done on the same subject

by Lesshaft, Hytle, Bouchut, Meyer, Hacker, Rotter, V. A. Manassein, Marchand, W. J. Collins, Arini, Graily Hewitt, Heyers, Helene Betts, Neftel, Scheiber, Mays, and others, and winds up his paper with the following words: "I cannot help stating in conclusion, that I look back both at the work of my predecessors and my own humble contribution with nothing but a sense of bitter and painful regret, for I am conscious that all those labors direced to prove the deplorable effects of tight-lacing will yet remain unnoticed or neglected for a very long time." What else, we may add, can be expected when even lady doctors whose business it is to know the right way in this matter, who, we presume, try to induce their patients to walk therein, in their own fair persons (it is whispered) do not always practice what they preach.—*Brit. Med. Jour.*

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Hernia of the Parturient Uterus Through the Linea Alba.—In a paper read before the Medical Society of the District of Columbia, October 31, 1888, Dr. Charles E. Hagner said that in July, 1884, he delivered a primipara, after a prolonged labor, of a full-term female child. Forceps were used, with slight laceration of the perineum, which was immediately stitched up and healed perfectly. The patient made a good recovery, and showed no signs of ventral hernia. In March, 1886, Mrs. B. was delivered of a second full-term female infant without forceps, the perineum remaining intact, the labor being a short one (six hours), and perfectly normal. Within three months the patient called his attention to a "lump" about the umbilicus. Upon examination he found an umbilical intestinal hernia, about the size of an egg, which was readily reduced, the opening being large enough to permit the introduction of the end of the finger. An abdominal truss was ordered which retained it perfectly. The patient wore this until she was taken in labor with her third child, in Feb. 1888.

On Feb. 8, 1888, he was called to see Mrs. B., and found her in the first stage of labor, the os dilating and the pains frequent. He remained an hour, when, everything progressing normally, he left her for an hour and a half. Upon his return he found the bag of waters ruptured, the patient in bed and in active labor; the os fully dilated, the head engaging L. O. A. The labor progressed normally and actively for about an hour and a half, examinations being made from time to time. Suddenly the patient, after a very violent pain, called out and said: "Oh doctor, I am tired out, I can no longer bear down." It had been about ten minutes since Dr. Hagner's last examination. On approaching the bed, he observed that the abdominal tumor, heretofore perfectly normal, presented a peculiar appearance, being much more prominent, and seeming to project at right angles to the patient's body, who was lying on her back. Upon lifting the sheet, he was startled to find that the uterus had left the abdominal cavity, and was covered only by the skin, which was very tightly stetched, and seemed as thin as tissue paper. The uterine vessels were clearly seen, also the contractions, when a pain came on. The head at this time was in the vagina, and he immediately saw that the woman was correct in saying that she could make no expulsive effort. Notwithstanding the uterine contractions, which were regular and strong and visible, the head made no advance, and the patient becoming exhausted, Dr. Hagner immediately applied the forceps and delivered the child. There was no difficulty in applying the forceps, as the head was well down, but the impossibility of restoring the uterus to its normal position, and its tendency to fall to one side or the other, made it necessary to have the nurse support it in the median line until the child was extracted. It proved to be another fine healthy girl. The placenta was quickly extracted by the hand, as the patient seemed exhausted, and Dr. Hagner was most anxious to terminate the labor.

As soon as the placenta was removed there was little trouble in replacing the uterus through the opening in the walls of the abdomen, it having thoroughly contracted and reached its proper size. A suitable bandage was applied, and the woman made a good re-

covery. It is surprising, he says, to find how small an opening there seems to be in the abdominal wall at present. The woman is wearing the abdominal bandage she wore before her last pregnancy, and says she suffers no inconvenience.—*Jour. of Amer. Med. Association.*

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THE ARREST OF PHTHISIS.—The Islington Medical Society met on March 26 to hear an address from Dr. Sansom on the Arrest of Phthisis, and the way in which it occurs. Dr. Sansom was disposed to think that the bacillus of tubercle had a tendency to die out, like other germs, if it could be put into unfavorable circumstances. Analyzing about twenty cases in which, from careful personal observation, he was satisfied of the arrest of phthisis, he found that that the most invariable condition to be noticed was that they had climatic change, not in any given place or climate, but somewhere out of the air of crowds and town. He attached more importance to this element in treatment than to any merely medicinal measures. Of these cod-liver oil was best, sometimes administered by the rectum when it was not acceptable to the stomach; and he recommended the inunction of carbolic acid over the apices in the form of an oil, one part carbolic acid to four of olive oil. He did not find that preparations of iron had been used in these cases.

One of the members directed attention to the remarkable exemption from phthisis of the Faroe Islanders, who lived in a very open moist air, and fed largely on fish and wind-dried mutton. They had plenty of bronchitis and rheumatism, but no phthisis. The account of these Islanders and their sanitary condition is to found in the *British and Foreign Medico-Chirurgical Review*, Vols. VII and XI. It may be hoped that Dr. Sansom is a little too absolute in thinking change of air and climate essential to the occurrence of spontaneous cure or arrest of phthisis. It would be a bad outlook for our poorer patients if the chance of cure depended on the, to them, entirely impracticable remedy of a change of climate. The fact seems to be that the tendency to tubercle seems to be much more common than is thought, as well as the tendency to get over it. Dr. Heberden, in his Commentaries, shows that he had knowledge of such processes, and gives one or two cases in point. Our best knowledge of the chances of the arrest of phthisis is based on observations in the pathological theaters of the great hospitals of large cities —Edinburg, Paris, London, and Vienna. It was these that gave Hughes Bennett, Williams, Rogée, Boudet, and others their first belief in such a process. We cannot do better than reproduce here the words of Dr. Bennett: "The careful dissections of morbid anatomists have recently shown that this arrestment (of the further deposition of the tubercle), instead of being a rare or occasional occurrence, really happens with extreme frequency. In 1845 I made a series of observations with reference to the cretaceous masses and puckerings so frequently observed at the apices of the lungs in persons advanced in life. The conclusion arrived at was that the spontaneous arrestment of tubercle in its early stage occurred in the proportion of from one-third to one-half of all the individuals who die after the age of forty. The observations of Rogee and Boudet, made at the Salpetriere and Bicetre Hospitals in Paris, amongst individuals generally above the age of seventy, showed the proportion in such persons to be, respectively, one-half and four-fifths." The observations of Heitler in the post-mortem room of Vienna are to the same effect, and show a large proportion of spontaneous recoveries.—*Lancet*

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THYMOL IN THE TREATMENT OF TYPHOID FEVER.—At the Congress of Medicine held in Rome last October, Dr. Testi related his experience of thymol in more than 150 cases of typhoid fever treated in the hospital of Faenza. The results were most satisfactory. The temperature was reduced not, he maintained, by the withdrawal of heat from the body, as is the case with ordinary antipyretics, but by moderating its production. The antiseptic action of the drug was also marked;

it diminished tympanites, checked diarrhea, and notably lessened the putrefactive products usually found in excreta. Dr. Testi also states that on microscopic examination he found a remarkable diminution in the number of mucous corpuscles, epithelial debris and pasastic elements (especially grandular) in the stools. The drug has also a marked effect in reducing the excretion of urea, and as it increases the blood pressure it has no injurious influence on the action of the heart. Dr. Testi strongly recommends thymol in typhoid fever as mitigating the severity of the disease and preventing complications—*Brit. Med. Jour.*

## BOOK REVIEWS.

Diseases and Injuries of the Ear. Their Prevention and Cure. By Charles Henry Burnett, A.M., M.D., Aural Surgeon to the Presbyterian Hospital; Lecturer on Otology in the Woman's Medical College of Pennsylvania, in Philadelphia; ex-President American Otological Society; Fellow of the College of Physicians of Phiadelphia. J. B. Lippincot Company. Price $1.00.

This book is one of a series on Practical Lessons in Nursing that are being issued by the above publishing house. The author, Dr. Burnett, published "A Treatise on the Ear" some years ago that is recognized as one of the standard works on the subject. The little volume before us contains many hints and practical points that will be useful to general practitioners.

The Physician's Handbook for 1889. By Drs. W. and A. D. Elmer. W. A. Townsend Publishing Company, New York.

This little book is now in its 32nd year of publication, and is again presented to the profession in its thoroughly revised form. It is claimed to be the most complete work of its kind extant, containing a ready book for reference and a diary in such a condensed form as to be conveniently caried in the pocket. It has been adopted by the United States Government for the use of the medical affairs of Army and Navy. Such information as the book contains should be carried in the head of every ordinary practitioner, instead of in his pocket. We, however, lift our hat to its gray hairs.

## BOOKS AND PAMPHLETS.

Tennessee State Board of Health Bulletin, April 15, 1889.

Official Proceedings of the Chicago Medical Society, March, 1889.

The Question of Relationship between Lichen Planus (Wilson) and Lichen Ruber (Heber). By A. R. Robinson, M.B., L.R.C.P. and S. Eding, of New York. Reprint from Journal of Cutaneous and Genito-Urinary Diseases.

Pathology and Treatment of Alopecia Areata. By A. R. Robinson, of New York, Reprint from Transactions of the Ninth International Medical Congress.

Warner's Therapeutic Reference Book. By William R. Warner. Medical Printing Company, Philadelphia, 1889.

Weekly Abstracts of Sanitary Reports (Nos 15 and 16), issued by the National Government.

On Commercial Fertilizers.—Bulletin No. 33, of Massachusetts Agricultural Experiment Station. March, 1889.

Sixth Annual Report of the Board of Control of the State Agricultural Experiment Station, at Amherst, Mass. 1889.

Therapeutische Notizen d. Deutschen Medizinal Zeitung, 1880 to 1889. Heft 1. Bogen 1-5 (A. Gelendenzundung). Dr. Julius Grosser, Berlin, 1889.

Water Supplies of Illinois and the Pollution of its Streams. Preliminary Report to the Illinois State Board of Health. By John H. Rauch, M. D., Springfield, Ill., 1889. Printed by H. W. Ranker.

Intubation of the larynx in Diphtheritic Croup. By Dillon Brown, M.D.

Intubation in Chronic Stenosis of the Larynx, with a Report of five cases. By Joseph O'Dwyer, M.D. Both Reprints from the N. Y. Medical Journal for Nov. 10, 1888.

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## REPORT ON PROGRESS.

### GYNECOLOGY.

BY Y. H. BOND, M.D.

I. THE SCOPE OF THE CURETTE IN GYNECOLOGICAL AND OBSTETRICAL PRACTICE.—ED., *Ind. Med. Jour.*

II. A RECORD OF THE PORRO-CESAREAN OPERATION, SHOWING ITS RESULTS IN ALL COUNTRIES.—R. P. Harris, A.M., M.D., *Brit. Med. Jour.*

III RAPID CURATIVE TREATMENT OF CYSTITIS.—*Archiv. Gynecol.*

IV. STERILITY FROM INAPTITUDE FOR OVULATION AND INCUBATION.—Thomas More Madden, M.D., *Annals of Gynecol.*

### THE SCOPE OF THE CURETTE IN GYNECOLOGICAL AND OBSTETRICAL PRACTICE.

There is scarcely a disease of the epidermal, serous or mucous surface pertaining to the interior or exterior of the body in which the curette may not be of service. It is but a few years since it has been determined that more or fewer of the so called constitutional diseases have a local origin, and that they are susceptible to local treatment during this primary stage. While the antiseptic principle lies at the root of the matter, there is no form of instrument which has been of greater utility in accomplishing the many successes in the treatment of tuberculosis, scrofula, sarcoma, carcinoma than the curette.

In a recent paper Dr. Andrew F. Currier, of New York, discussed the application of the curette to obstetrics and gynecology, and the principle involved in its use as a cutting, bruising or scraping instrument. It is as indispensable as the obstetric forceps or the speculum to the practitioner. Recamier is the modern inventor, and it was called by him a sonde-curette or a gorgeret-curette, and was designed by him in 1846 as a means for the treatment of "vegetating endometritis." (*Ann. de Thera.*, August, 1846).

The most extensive article ever written on this instrument is by Boureau. It has as advocates the most distinguished gynecologists of Germany, England and America, though the opposition to the Recamier curette was led by such men as Carl Braun in Austria, West in England, and Emmet in our country. Sims attached great value to the instrument, and made numerous modifications. Thomas has given us the best modification of the dull curette. It has two functions, the diagnostic and the therapeutic. The indications for the therapeutic are, (1) hemorrhage; (2) mucous or muco-purulent discharges; (3) sepsis; (4) pain. When used for diagnostic purposes it is but a prolonged index finger.

The chief indication for its use is uterine hemorrhage, excluding the hemorrhages of menstruation and parturition. These may proceed from the following causes:

(*a*) A diseased mucous membrane.

(*b*) Diseases affecting the parenchyma of the uterus, especially from new growths.

(*c*) Diseases of the uterine adnexa.

(*d*) Diseases of the pelvic peritoneum or cellular tissue.

(*e*) Stasis from uterine displacements.

(*f*) New growths and adventitious tissue in the uterine canal.

Hemorrhage from the mucous membrane is very common in malignant disease. The use of the curette here is only palliative, but it brings great temporary relief from hemorrhage and offensive discharges which charac-

terize such processes. When the uterine parenchyma is affected with either malignant or benign growths, curetting is found quite beneficial and also palliative. These growths include the entire class of fibroids which may give rise to hemorrhage, especially if located near the os internum, in the area of the greatest vascularity of the uterus.

Hemorrhage may be due to congestive and inflammatory conditions of the ovaries and fallopian tubes, and curetting will be useless unless the process extends to the uterine mucous membrane. For the acute forms of pelvic trouble caused by disease in the ovaries and tubes, curetting should not be applied; but in cases in which the mucous membrane is in a chronic degenerated condition, as frequently follows acute disease, curetting will be efficient. Uterine hemorrhage may be due to polypi or the retention of fragments of placenta or decidua, and the relief obtained for the latter by the use of the curette is prompt and satisfactory.

There is no form of treatment for uterine hemorrhage, if it accompanies degeneration, infiltration, hyperplasia or chronic inflammatory changes in the mucous membrane so satisfactory as careful and thorough curetting, performed under anesthesia, with proper antiseptic precautions, and immediately followed by the application of an astringent or caustic antiseptic solution.

The use of the curette is indicated for the treatment of muco-purulent discharges, especially in connection with chronic catarrhal inflammation of the glandular system of the cervical mucous membrane. The operation is simple and usually painless, and may be done with almost absolute safety. Sepsis is not an infrequent concomitant of such conditions as have been under discussion. The warmth and moisture of a nearly closed cavity like the uterus are favorable to decomposition, which may end in a more or less well defined sepsis. The curette may not remove the septic influences, but may stop their tide and the rapid changes for the better in septic cases, where curetting has been done, demonstrate that the poison may be eliminated, and that if we can stop the current before the vital powers are overwhelmed our chances of success are very good.

Similar statements may be made in regard to pain, which is a secondary symptom among the indications for curetting. If the cause really lies in the tissues which are curetted, the operation will cause the pain to disappear, that this does occur is a matter of too common observation to admit of argumentation.

The operation in general is one which requires so little skill that it is within the reach of every general practitioner, and there is no doctor in general practice who does not, some time or other, encounter conditions which call for its performance.

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## A Record of the Porro-Cesarean Operation, Showing its Results in all Countries.

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Two hundred and fifty operations (1876–1888) in 15 countries with 115 deaths; 29 deaths in the first 50 cases, and only 9 deaths from the last 50 operations; 12 children lost out of the last 81.

Thus stands the latest record of this important abdominal operation; one that must grow in favor as an alternative to craniotomy when its marvelous diminution in death-rate shall become generally known. Eighty-one operations, 10 of them reported by letter, have been performed since January 1st, 1885, with 16 deaths and 1 suicide in an improving patient. There were, as far as known, 23 operations in 1885; 23 in 1886; 15 in 1887; and 20 in 1888. Eight of last year's cases have been received by letter thus far, and but one was fatal. The last 14 operations of 1888 saved all of the women and children but one each. No cases are noted where uterine rupture preceded the hysterectomy, as such operations are not Cesarean. Great Britian is credited with 16 operations and 5 recoveries: her last five cases were successful to the women and children. Researches are still in progress and a tabular record will be published when the work is completed. The cause of

science and humanity demands that this encouraging report in progress, should no longer be withheld from the medical world. The operations are credited as follows, namely:

| No. | Countries. | Cases | Women Recovered | Women Died | Operations from Jan. 1, '85-'89 | Women Recovered | Women Died | Woman committed Suicide |
|---|---|---|---|---|---|---|---|---|
| 1 | Italy | 85 | 43 | 42 | 19 | 14 | 5 | — |
| 2 | Austria | 61 | 42 | 19 | 24 | 22 | 2 | — |
| 3 | Germany | 41 | 21 | 19 | 13 | 11 | 1 | 1 |
| 4 | France | 17 | 6 | 11 | 0 | 0 | 0 | — |
| 5 | England | 12 | 5 | 7 | 5 | 4 | 1 | — |
| 6 | Russia | 7 | 5 | 2 | 7 | 6 | 1 | — |
| 7 | United States | 7 | 2 | 5 | 3 | 1 | 2 | — |
| 8 | Belgium | 5 | 3 | 2 | 1 | 1 | 0 | — |
| 9 | Switzerland | 4 | 3 | 1 | 2 | 1 | 1 | — |
| 10 | Scotland | 4 | 0 | 4 | 3 | 1 | 2 | — |
| 11 | Holland | 2 | 1 | 1 | 1 | 0 | 1 | — |
| 12 | Australia | 2 | 2 | 0 | 2 | 2 | 0 | — |
| 13 | Spain | 1 | 0 | 1 | 0 | 0 | 0 | — |
| 14 | Mexico | 1 | 0 | 1 | 0 | 0 | 0 | — |
| 15 | Japan | 1 | 1 | 0 | 1 | 1 | 0 | — |
| | | 250 | 134 | 115 | 81 | 64 | 16 | 1 |

The most successful operators have been Professor August Breisky, of Vienna, formerly of Prague, 8 cases, no deaths; Dr. Hubert Reidinger, of Brunn, 7 cases, no deaths; Professor Hermann J. Fehling, of Basle, formerly of Stuttgart, 6 cases, with 1 death; Professor Edoardo Porro, of Milan, formerly of Pavia, 6 cases, with 1 death: Professor A. J. Krassovsky, of St. Petersburg, 5 cases, with 1 death; Professor Domenico Chiara, of Florence, formerly of Milan, 9 cases, with 3 deaths; and Professor Karl von Braun-Fernwald, of Vienna, 16 cases, with 6 deaths; a loss, collectively, of 12 women out 57.

The lowest rate of mortality will be found where operations are elective, and are performed in hospital, either before the full period of gestation is complete, or just after labor has commenced. Early operations, old style, have had a high rate of mortality in England, or a percentage of 75, against 25 in the United States; but early Porro operations appear by recent tests to promise as well in Great Britian as elsewhere. My researches have not led me to hope for a recovery of 95 per cent as thought possible by Mr. Tait, but they have given an encouragement to believe in a possibility of 80 to 85 per cent. in very careful hands. As the Sanger Cesarean operation has saved 66 women out of 78 in Germany, I do not see why the Porro method, under the same degree of care, cannot accomplish a like result, when we look at the work in Austria for the last four years. Professor Breisky (8) and his two assistants (2) and (1) have operated 11 times without the loss of a child or mother.

## Rapid Curative Treatment of Cystitis.

Within the past year twenty-eight cases of cystitis have come under observation in the gynecological wards of my hospital; and in nearly every one of these cases the patient was discharged free from the disease, which in some of them had resisted years of other treatment.

In women cystitis is, not only from the special causes incidental to the sex, more frequent than in men, but is also more urgent in its symptoms and more liable to lead to grave pathological consequences. These symptoms and sufferings may be illustrated by the history of a typical case.

F. G., aged eighteen, was suffering from persistent, teasing, suprapubic pain, extending throughout the pelvis, and giving rise to almost continual desire (night and day) to pass water, with little or rather no relief on each occasion of so doing, micturition being attended with increased pain, straining, and inability to void the last drops of urine. These symptoms had endured for two years before admission, and had not been mitigated by the treatment employed. This result was apparent in the physical appearance of the patient, who from a plump, well-conditioned, good-looking girl, was now reduced to a wretched, careworn, cachectic-looking creature, to whom life was a misery. The urethral orifice and canal were found patulous, and the mucous membrane extruding in a state of hypertrophic ectropium through the gaping meatus. The lining membrane of the bladder was in a similarly diseased condition,

and its cavity and walls were so contracted and irritable that it was not without occasioning considerable pain that we could inject an ounce or two of bland fluid, which was immediately ejected with spasmodic force. This is no over-wrought picture of a well-marked case of cystitis. Moreover, the condition is one that may, in most instances, be effectually and permanently relieved, as the case just described was, by a facile and rapid method of treatment, and without the necessity of resorting to the formation of an artificial vesicovaginal fistula.

General Treatment of Cystitis.—I may say a few words with regard to the general principles which should guide our management of these cases, as well as on the ordinary plans of treatment and palliative measures generally recommended in cases of cystitis in women. It is obvious that in this, as in every other disease, our primary business is to ascertain and to remove, if it be removable, whatever may be the exciting cause of the morbid condition of the bladder. Thus, if the disease be dependent on extension of vulvar or vaginal inflammation, either gonorrheal or non-specific, this must be at once allayed by appropriate treatment. If due to the mechanical pressure of a displaced uterus, this should be rectified by a suitable pessary. In the same way, the weight of a uterine fibroid pressing on the bladder, if it cannot be otherwise got rid of, must be at least lifted well above the pelvic brim, and there maintained. If vesical calculus be present, or if, as ascertained by careful examination of the urine, renal disease exists, and has exteneded from the kidneys along the ureters, it will be useless to attempt the topical treatment of the consequent cystitis until in either instance its cause has been removed.

Presuming the case to be one of uncomplicated cystitis, we have then an abundant choice of suggested remedial measures which (save that advocated by Dr. Emmet, to which I shall subsequently refer) are all equally useless, as far as probability is concerned, of thus curing any extreme case of cystitis. Nevertheless, some of these measures are unquestionably of value as palliative expediments, and may possibly even prove curative in exceptionally mild cases of the disease. The most generally useful in this way are long-continued warm baths, washing out the bladder through a double catheter with plain warm water, thin flax-seed tea, or a solution of boro-glyceride; conjointly in all instances with absolute rest in bed, the free use of diluents, together with the administration of the old-fashioned Dover's powder in small, frequently repeated doses, as the best opiate in these cases; and lastly, above all, by the use of boracic acid in 10 or 15-grain doses three or four times a day, by which the generally fetid ammoniacal urine is deprived of its fetor and rendered less irritating to the endovesical mucous membrane.

Curative Treatment of Cystitis.—These measures may relieve, but will not cure well-established cystitis, nor am I aware of any method by which this result can be obtained except by primarily giving the diseased lining membrane of the bladder and its submucous muscular walls absolute physiological rest. This may be secured in either of two ways—namely, first, by that advocated by Dr. Emmet, which consists in the formation of an artificial vesicovaginal fistula through which the urine may drain away as fast as secreted, and by the consequent removal of the immediate source of irritation to the unhealthy and hyperesthetic endovesical mucous membrane thus affords the patient a fair chance of escape from ultimate extension of the disease to the kidneys. The objections to this plan of treatment are, however, so grave as to render any rational alternative that may be suggested for attaining the same object by less heroic means deserving of fair consideration and full trial. These objections are, first, the general difficulty of keeping the fistulous opening patulous for a sufficient time to allow the diseased bladder to regain its normal condition; scondly, the irritation often occasioned by the button commonly employed for this purpose; and thirdly, the more serious trouble, which we meet with in some exceptional instances, of closing the fistulous open-

ing when the desired object has been attained, and the consequent misery resulting from this mischance, by which the patient's last condition may thus possibly be rendered worse than her former state.

I have abandoned this operation, and believe that we may obtain all its advantages more easily and more safely, simply by so thoroughly dilating the urethral canal as to enable us to pass the index into the bladder, and thereby paralyze the contractility of the sphincter or of the canal for a time, which may be indefinitely extended by repeating expansion in the same way as often as may be necessary. It may, moveover, be advisable in some instances to remove the proliferating vesical mucous membrane by the cautious employment of a dull wire curette, which I have used with advantage in cases of this kind. And, lastly, whether the curette be required or not, the method of dilatation should, in all cases, be conjoined with the topical application of carbolic acid to the mucous surface. The latter is best employed in the form of glycerine of carbolic acid of the Pharmacopeia, which is quite strong enough for the purpose, and introduced by an ordinary stilette, armed with a piece of absorbent cotton saturated in the application, and passed through my dilator so as to avoid any of the acid being brushed off in the canal until it reaches the fundus vesicæ, where it should be retained for a couple of minutes until every part of the vesical wall contracts firmly upon it. The urethral canal is then to be similarly brushed out by another application of the carbolized glycerine. The pain caused by this procedure may be prevented by previously introducing in the same way a 10 per cent. solution of cocaine. The plan of treatment recommended seldom requires to be repeated more than two or three times, at intervals of a week, to effect a cure of even the most aggravated cases.

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## Sterility from Inaptitude for Ovulation and Incubation.

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Inaptitude for ovulation may be relative or absolute. It is absolute if the ovaries are absent or have undergone such organic modifications or morbid alterations that they are deprived of their functional activity. Amenorrhea is the evidence of this condition. It is a very frequent symptom, and though there are examples in which pregnancy has occurred in such cases, amenorrhea may be considered in general as an absolute cause of sterility. It may be due to absence of the ovaries, to a rudimentary development of the entire utero-ovarian apparatus, to disease of the ovaries and tubes, to delay in the development of the menstrual function, or to some constitutional condition such as persistent anorexia, tuberculosis, etc. Absence of the ovaries is a rare deformity, and usually coincides with want of development in the entire genital apparatus. A diagnosis of this condition is best made by anesthetizing the patient in the dorsal position, and exploring by the aid of a sound in the bladder and one or two fingers in the rectum. Rudimentary development of the ovaries is very difficult of diagnosis during life. One can often suspect it in connection with an undeveloped uterus and general deficiency of physical vigor. Arrested development of the ovaries does not always lead to absolute amenorrhea; there are sometimes bloody discharges at irregular intervals, with menstrual molimina. Such cases are not insusceptible of successful treatment by some form of dilatation, continued as long as is necessary, or by electricity. If amenorrhea is due to tumors, cancer, or tuberculosis of the ovaries, the sterility is incurable if both are affected at the same time. If amenorrhea is due to delay in the establishment of the menstrual function, it may generally be considered that there is some morbid or congenital condition which causes it if it is delayed beyond the eighteenth year, and such a cause should be carefully sought. If amenorrhea occurs between the thirty-fifth and fortieth years in a women who has never conceived, it will in most cases be permanent. Treatment for sterility in such cases will usually be unsuccessful. Among the disorders of nutrition which most frequently cause

sterility is obesity. Menstruation with such women is usually scanty, though the genital organs and the sexual appetite may be well developed. The treatment in such cases may be successful, but it is usually long and tedious. It consists in measures for overcoming obesity, such as massage of the abdominal walls, massage of the uterus, and other measures for improving the activity and the nutrition of the uterine muscle. If sterility is due to constitutional disease, such as the scrofulous, the tuberculous or the cancerous diathesis, conception is not impossible, though these diseases certainly exercise an unfavorable influence upon ovulation.

## ORIGINAL ARTICLES.

### SEROUS IRITIS.

BY WM. DICKENSON, M.D., ST. LOUIS.

The subject of this affection was an estimable woman, æt. 40, mother of five children, who, being blind, was led in my office March 7, 1888, by her youngest child, a boy 8 years of age. Menopause occurred one year since. For many years has been subjected to much and varied domestic infelicity in consequence of a dissipated husband. She said: "First symptoms of eye-disease appeared 3 years ago, obscurity of vision first observed while in the act of threading a needle. Selected for myself a pair of glasses which for a time rendered some service. I then consulted a young oculist of the city who prescribed glasses. These afforded temporary assistance, no treatment given. Vision continuing to decline I consulted another oculist who pursued the same course, and from each received the assurance that I should not become blind. Early in last winter, 1887, consulted a third oculist, who, from the first interview, gave me but little encouragement to hope for improvement of vision. Under his observation I have never had much pain in my eyes till 3 weeks since, when, without obvious cause,it supervened, and for the 10 days succeeding, pain in eyes, head and brain generally was excruciating; this in a good degree has now subsided, pain being only occasionally felt in the left temple. The right eye first became affected, the left eye soon afterward. Six months after this affection commenced had an eruption of the skin of the entire body; lost my hair, eye-brows and eyelashes; (all of which are now fully regained), took S. S. S. by advice of a physician. Failure of vision has been gradual and constant. One year since could distinguish faces and features of friends; now vision confined to little more than perception of light, which, with left, is a little better than the right. Have now occasional flashes of light in both eyes, spectra of rings of brilliant light of a silver color, which moving upward and outward finally disappear. Appetite not good, habitual condition of bowels, constipated."

Present appearances; general appearance of eyes at a short distance, natural, but of a dull aspect; upon closer infection the cornea of each is hazy. Surface finely stippled, numerous isolated opaque spots of minute size on membrane Descemet. Aqueous humor of both of a muddy appearance, especially that of the left, the pupils somewhat contracted, extensive synechiæ posterior, probably complete, pupillary area of both filled with inflammatory products, pupils not affected by atropia, no choroidal reflex obtained. No objects can be discovered at any distance, yet at times can perceive the distinction of colors by strong contrasts.

Though the prognosis was highly unfavorable, still I employed quite actively tentative treatment consisting of mercurial iodide, bichloride, Pot. iod, and tonics, this I supplemented by the performance of iridectomy on three occasions at proper intervals. The operations were successfully performed, the desired portions of the iris satisfactorily removed, but without very appreciable improvement of vision.

It is evident from the data obtained that the real nature of the affection was not duly recognized by those under whose observation the patient first came. Since no adequate effort to combat the disease was then made, the

golden period of successful treatment, consequently, was thus allowed to pass unimproved. It is possible, indeed, that irretrievable injury had been inflicted before application for treatment was first made. In any event, the history of the case affords an illustration of the insidious and destructive character of the disease under consideration, and also the liability that its presence may escape the observation of even those of large experience and of quick and deep discernment.

The peculiar position of the iris and its relation to the lens capsule, being in near contiguity or in contact (as some maintain), and its anatomical connection with the uveal tract of which it constitutes an important part, render even simple inflammation of this organ, and its sequelæ, one of the most dangerous affections to which the human eye is subject. Its inception and early stages are often unheralded or unaccompanied by distinctive symptoms, and often proceed to incurable stages without giving unequivocal warning of its presence. Like the operation of secret poisons, it is known by the results. Pain; the symptom by which nature usually announces the presence and action of morbific causes, is sometimes entirely absent, no marked discoloration of the iris or contraction of the pupil or other usual lesser symptoms exist, or to so small a degree as not to command attention of patient or surgeon. Though these may be absent, yet others are not altogether wanting, obscurity of vision is one of the earliest and most frequent. An occurrence of this symptom, even if apparently spontaneous, and if it constatly progresses, should excite alarm and urge to careful investigation for the detection of the cause and the adoption of energetic measures for its speedy arrest or relief. If symptoms are unheeded by the patient and he yields to the voice of the syren "Procrastination," and fails to seek skilled advice, or should the surgeon give to it but a casual examination or otherwise fail to detect the disease present, he allows culpably the Rubicon of restoration to be quickly passed from which there is no return; pathological conditions are induced which are irreparable, and the first factor of a series of causes and effects established, which series, resistlessly progressing, results in the destruction of vision in the eye first affected, and in its ultimate consequences may entail irido-choroiditis and speedily precipitate the other eye into the common vortex of sympathetic ophthalmia.

Usually, however, iritis from its earlier invasion is accompanied by pain, ciliary, circumorbital, temporal, and indeed throughout the entire territory of cutaneous distribution of the 5th cranial nerve, also by conjunctival and subconjunctival congestion, chemosis, discoloration of the iris, contraction of the pupil, photophobia, lachrymation, etc.

Such are the chief symptoms of a typical case of simple iritis.

Serous iritis is simple iritis and much more equally insidious is its invasion and early progress. It involves the inflammation of the membrane of Descemet, (Descemetitis) from which there results a punctated condition of this membrane, in consequence of a larger number of small isolated masses of proliferated cells diffused throughout the aqueous humor being deposited upon it; a similar deposition may take place upon the iris; upon the anterior capsule, may and usually does occlude the entire area of the pupil, thus impairing vision to a degree proportionate to the amount of accumulation, and finally is deposited upon the uvea whereby synechia posterior is occasioned. Serous iritis progressing, the entire uveal tract becomes involved through continuity of structure, choroiditis thence results, and subsequently the vitreous (hyalitis) may be drawn into the common maelstrom, in consequence of which impairment of vision to still farther increased.

The isolated masses of lymph referred to are sometimes seen proliferated between the different layers of the cornea most frequently between the posterior.

Even in the middle forms of this affection synechia-posterior is always to be apprehended as a sequel. This event should be borne constantly in mind, and for its prevention the

utmost endeavors should be exerted to obtain early, and secure complete, dilatation of the pupil. When synechiæ posterior are once established it is by no means easily removed. Their rupture, by proper manipulation, has been not in frequently produced, but the act is attended with danger of producing traumatic cataract, a condition quite as much to be deprecated as that designed to be removed.

The prognosis will greatly depend upon the involvement or exemption of the choroid and the other profound structures in any given case.

The treatment must of course be directed to the arrest or abatement of the original cause, when this can be ascertained. General therapeutics must be invoked, no specific has been discovered. Mercurials and alteratives, which act as such in most forms of syphilis, are most effective in serous iritis. Evidence of their specific effects early as possible should be employed both internally and by inunction. Ol. Terebinth has in the hands of some ophthalmic surgeons proved most serviceable, this agent may therefore be resorted to in constitutions which illy bear mercurials. Leeches applied along the margin of the lower lids and on temple will often afford great relief of the pain, and promptly arrest the disease. Dilatation of the pupil, as before observed, should early as possible be secured. The patient should remain under the eonstant supervision of a vigilant and intelligent surgeon and his active efforts should not be remitted till the battle is fought and the victory won. Often cases occur which prove very obstinate, yielding but little to treatment, but despair must have no place in the surgeon's vocabulary for excellent or at least fair results are often obtained from conditions highly adverse, vision or blindness are in the balance, defeat and surrender must be acknowledged only where the impossible is reached.

The great lessons I desire to emphasize are:

1. The grave and insidious character of serous iritis.

2. The great liability of escaping due recognition.

3. The urgent necessity of the wisest treatment vigorously pursued.

4. Indomitable persistence in this effort to the end.

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## MEDICAL SOCIETY OF INDIANA.

BY E. S. MCKEE, CINCINNATI.

In Plymouth Church, Indianapolis, May 1 and 2, 1889, convened the 40th annual session of the Indiana State Medical Society under the presidency of Dr. W. H. Wishard, of Indianapolis.

The report of the secretary showed a gain of six county societies and 70 members over last year. No doctor can be a member of the state society unless belonging to the county association, and being a member of the latter makes him a member of the state society. The whole number of members is 1200. The treasurer's report announced a prosperous condition of the financial affairs of the society.

Dr. Kate Corey, a graduate of Michigan University and superintendent of the Methodist Hospital at Foochow, China, was introduced to the society and made a brief speech. The motion to make her an honorary member was passed without a dissenting voice.

Officers elected: Pres., Dr. J. D. Catch, Lawrenceburg; Vice-pres., Dr. S. Y. Yonte, Lafayette; sec'y, Dr. E. S. Elder, Indianapolis; assistant sec'y, Dr. T. C. Kennedy, Shelbyville; treas., Dr. F. C. Ferguson, Indianapolis.

A paper was read by Dr. G. W. Vernon, of Indianapolis, on Broncho Pneumonia in Children. He thought the use of natural gas had become an important factor in this and catarrhal diseases. In treating measles, whooping cough, etc., we should bear in mind the possibility of this disease; it may commence in the tubes and extend into the alveola, or may begin in the interstitial tissue.

Dr. Johnson, of Indianapolis, thought there were more recoveries from acute lobar pneumonia than from broncho-pneumonia.

He considers catarrhal disease essentially belonging to children.

The Hydro-Therapeutic Treatment of Typhoid Fever was the title of a paper by Dr. C. W. Smythe, of Greencastle, which was followed by a paper on Atypical Typhoid Fever, by Dr. H. McCullough, of Ft. Wayne.

Dr. M. F. Porter thought there were more cases of the atypical than typical fever. He opposed the routine treatment by cold baths.

Dr. Mendenhall said there were 300,000 cases of typhoid fever in the United States each year, and 30,000 of these die. We should be interested in the disease. The discussion on the subject grew quite lengthy and the conclusion was that the whole question was simply one of diagnosis.

Urethral Stricture in the Male was discussed by Dr. W. N. Wishard, of Indianapolis. Otis' operation is the only method by which he feels confident of success, as he is still dissatisfied with electrolysis.

Nervous Sick Headache was the title of a paper read by Dr. A. Porter, of Lebanon. He said little was written and little known about this disease, though it is so frequent. He thought a large majority of cases due to a deficient supply of blood in the brain or some part of it. When owing to stomach trouble bismuth and fl. extract of quassia are good.

Cholilithotomy was discussed in a paper by Dr. Miles F. Porter, of Ft. Wayne; A Case of Suppurative Peritonitis, by Dr. C. W. McCaskey, of Ft. Wayne, Glaucoma, by Dr. A. Mitz, of Indianapolis.

Nature and Etiology of Tuberculosis was the title of a paper by Dr. R. F. Stone, of Indianapolis, who opposed bacteriology and all the theories of Koch. He disbelieved in contagion, thought the germ theory a fallacious one and antiseptics useful only so far as they induced cleanliness. The paper produced considerable discussion among the disciples of Koch.

An interesting paper on Myxedema was read by Dr. Jas. F. Hibberd, of Richmond, who gave a report of a case under his care, and went extensively into the literature of this recently undescribed and rare disease. He pronounced it a distinct disease with well-marked symptoms, not amenable to treatment, and though persons may live for years they never recover normal health.

Dr. C. W. Kemper, of Muncie, Ind., read on Antiseptics in Normal Labor. His experience in 900 cases of labor had taught him that antiseptics were uncalled for in cases where the patient is surrounded by healthy environments and the complicated routine of the paraphernalia and details of antiseptic midwifery would be tiresome, expensive and unnecessary. Hardy nature required little assistance. Early settlers were almost exempt from tuberculosis, diphtheria and cerebro-spinal meningitis. In winter pleurisy and pneumonia raged. Four-fifths of the cases had been treated by the old women until hopeless, then the doctor was called. The doctor was looked upon with suspicion in obstetric cases until there was dire necessity, then the news spread like wild fire and the neighbors turned out as to a wedding or a funeral. The good dame of 50 years ago would show with pride her 10 or 12 sons and daughters. To-day we are shown one son or daughter and a poodle dog, sometimes only the poodle dog as the hope of the family. The doctor then made some scathing remarks on criminal abortion, and after some statements relative to the 40th anniversary of the Indiana State Medical Society, which was organized June 6, 1849, with 23 physicians, of whom only 3 are now living, his interesting address was closed amidst applause.

The president's address was delivered by the president, Dr. W. N. Wishard, of Indianopolis, and was an interesting review of the practice of medicine during the past 50 years. He asked the question, have we, as medical men, kept abreast of the times? His answer was a masterly effort in the affirmative. The primitive Indiana doctors had not advantages of education medically. The Transylvania University at Lexington, Ky., opened a medical department in 1817 which soon grew to be the second medical school of the United States. In 1819 the Medical College of Ohio at Cincinnati, and in 1837 the

Medical Department of the University of Louisville were formed. Only 20 to 25 of the physicians of Indiana had taken one course in medicine in 1825. Ephraim McDowell was not a graduate, but after he had practiced 30 years the University of Maryland gave him the honorary degree of doctor of medicine. The *Med. Repository* of Philadelphia was the only medical journal in the United States at the beginning of the early part of this century.

Dr. Lunsford P. Yandell, of Louisville, first instituted the treatment of fevers more in accordance with modern ideas. Dr. Wishard well remembers when quinine first came into use. He was given a prescription consisting of 30 grains of quinine, 10 drops of dil. sulphuric acid and 6 ounces of water; dose, teaspoonful to be taken three times a day, with great care. He has known an old thumb lancet to descend as an heirloom in families for several generations, and it had drawn more blood than some regiments in the civil war. An old theory of mighty weight was that if you drew blood from the right arm when pain was in the left the pain would be drawn across the heart and the patient would be killed. Obstetric business was of necessity in the hands of females in the early days. Physicians were scarce, women were robust and little aid was required.

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Clairvoyant "Physicians."—The opinion of the Supreme Court of Wisconsin, by Lyon, J., holding that a claivoyant physician is liable for failure to exercise the ordinary skill and knowledge of a physician in good standing, practicing in the vicinity, and not merely to the ordinary skill and knowledge of clairvoyants. If he holds himself out as a medical expert and accepts employment as a healer of diseases, but relies for diagnosis and remedies upon some occult influence exerted upon him, or some mental intuition received by him when in an abnormal condition, he takes the risk of the quality of accuracy of such influence or intuition. There are so many persons now who assume to act as physicians and take the lives of people in their hands, that this decision holding them to a strict liability may perhaps be timely.—*Legal News.*


# WEEKLY MEDICAL REVIEW,

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SATURDAY, MAY 25, 1889.


## Damages for Death from Inebriety.

A man in New York drank to intoxication in a saloon and was drowned on his way home in a small stream. His widow sued the saloon-keeper for damages. The jury brought in a verdict for the widow and the case was appealed. In the Supreme Court the judgment was confirmed. The judge said the evidence was clear that the death of the plaintiff's husband was caused by his intoxication, arising in whole or in part by the liquor furnished by the defendant. The law in this case was the Civil Damage Act of 1873, of New York State, which provides as follows: "Every husband, wife, child, guardian, employer, or other person who shall be injured in person, property, or means of support by an intoxicated person, or in consequence of the intoxication, habitual or otherwise, of any person, shall have a right of action against any person or persons who shall by selling or giving away intoxicating liquor have caused the intoxication in whole or in part."

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## Filtered Water.

Dr. C. G. Currier, or New York (*Med. News*), April 20 and 27, 1889), after a good deal of biological experimenting with water, concludes that ordinary filters, even if satisfactory as strainers, fail to remove all bacteria from drinking water. So far from lessening the number in the original water the filtering substance may allow a more rapid multiplication than these micro-organisms would ordinarily undergo in the unfiltered water on standing, and the germs of disease, even if

held back by the filtering substance, may be harbored in all filters. Of all substances thus far furnished for domestic filters, porous re-backed porcelain has been found to be the best. If thick and strong enough to allow the use of a large surface, and without flaw or break, this may yield a fair flow of clear water, free from all bacteria; yet, under ordinary hydrant pressure (of one atmosphere or less) this yield is only in rapid drops unless the apparatus be complex. To insure the permanency of this action, the filter should be occasionally sterilized throughout by steaming or by other means.

Where filtering is really necessary, it is in general best for the community that it be done carefully on a large scale through sand-beds upon which a fine layer of organic and inorganic matter is expressly produced by sedimentation because of its valuable action in holding back the great majority of the bacteria. Even this is to be supplemented by boiling if real danger of infection exists.

## Suspension Treatment for Optic Atrophy.

The *Vienna Med. Press* is authority for the statement that Dr. Darier reports that he has obtained excellent results in the treatment of optic atrophy by suspending the patients after Prof. Charcot's method. The vision of two patients was increased from one-sixth to one-third, and in two others from one-fourth to one-half. It is stated that improvement took place in every case.

Facts in every instance, in medicine, must take precedence of theory. But it is not wise to accept as facts things that have not been proven. Optic neuritis, followed by atrophy of the optic nerve cells, may be produced by a number of causes that have no connection whatever with the spinal cord, and it is difficult to believe that any treatment addressed simply to the cord can have any effect upon atrophy, due to tumors at the base of the brain, for instance. It seems possible that the improvement noticed was simply coincidence, being due to other causes than the suspension treatment. It is no easy matter to determine in every instance whether or not the optic nerve is atrophied.

## Bon Voyage.

Dr. A. H. Meisenbach has sailed for Europe where he expects to remain one year. On the eve of his departure from St. Louis a dozen or more of his friends invited him to meet them at the Mercantile Club rooms, where an elegant dinner was served in his honor. The expressions, that were given in the after-dinner speeches, of genuine appreciation of, and friendship for, the guest of the occasion, were well calculated to lighten his journey. This enjoyable meeting will long be remembered with pleasure by all who were present.

For some years past Dr. Meisenbach has been a regular contributor to the columns of the Review, and it gives us pleasure to announce to our readers that he has promised to give us from time to time that which he finds new and interesting in the great clinics of Europe.

## Drilling Capillary Holes Through the Skull for Exploring the Brain with the Hypodermic Needle.

Dr. Edmund Souchon read a paper upon this subject (*N. O. Med. and Surg. Jour.*) before the Louisiana State Medical Society. He said that it had been demonstrated beyond any doubt that the penetration of the brain tissue by a hypodermic needle is an innocent operation very seldom, if ever, followed by serious consequences, if performed under strict antiseptic precautions. Some points, however, should not be penetrated.

Many successful operations upon the brain have been performed within the last few years that would have been regarded twenty years ago as bordering close upon the miraculous. But a sufficient number of cases have not yet been recorded to satisfy the general surgeon that the brain substance may be antiseptically punctured with impunity. Most

of us have read of the extraordinary case in which an iron cross-bar was driven through a man's brain by an explosion, and the man lived for years afterward, and of many other cases scarcely less remarkable, but we all know that the penetration of the brain substance by pistol-bullets has produced instant death.

Dr. Souchon has performed some experiments upon dogs and he believes that by making a small hole through the skull by the use of a watch-maker's drill, the dangers of the operation may be reduced to a minimum. The bit of the drill should be provided with a movable gauge and screw to prevent a sudden penetration of the brain substance by the drill. The needle used should be twice the size of the ordinary hypodermic needle.

It occurs to me that there are several objections that may be urged against this procedure; a sudden movement on the part of the patient might break a part of the needle off, which would be difficult to extract; if the skull is thick the needle can be introduced in but one direction; if pus is found a larger opening is necessary to admit of perfect drainage; the sense of sight cannot be used in making a diagnosis; the meningeal arteries cannot always be located with certainty, and accidental hemorrhage from one of these could not be controlled through so small an opening; operations reported for the relief of pressure upon the brain by hemorrhage have in most instances revealed clots of blood, which could not be removed through the capillary opening. Considering the fact that the operation of trephining, as now practiced, is attended by such slight risk compared with the gravity of the cases upon which such operations are performed, I am inclined to think Dr. Souchon's procedure has little to recommend it over the old way.

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## Treatment of Pulmonary Phthisis.

Dr. W. B. Canfield read a paper before the Medical and Chirurgical Faculty of Maryland in which he gave the following classification of the most approved methods of treating phthisis:

1. The principal remedies recommended of late were creasote, tannin, calomel and morrhuol. He had used creasote with some success.

2. Intrapulmonary injections had been discarded.

3. Inhalations had no lasting influence on the lung tissue. Creasote, hydrofluoric acid and hot air had all been used. Weigert claims to get some good effects from the latter.

4. Climate, in early cases well selected, is the best treatment. Many observers, particularly foreigners, gauge the improvement or the reverse by the diminution of the bacilli found. This hardly seemed to be the proper test. Patients often do well when their sputum is laden with bacilli. Cures may result spontaneously, as Vibert has shown in his statistics gathered from the Paris morgue. In 131 persons between 20 and 55, all of whom died violent or sudden deaths, in 17, or 68 per cent, evidences of cured consumption were even found in the lungs. These facts should be borne in mind by those reporting cures from the use of new remedies.

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## Treatment of Glycosuria.

The treatment of disease is to a large degree empirical. Much thought and careful study have been given in efforts to reduce our therapeutics to a scientific basis, but the difficulties encountered have been almost innumerable. Time and again assumed scientific deductions have been overthrown by clinical facts. But the good work goes on, and only the most skeptical among us will deny that we are making progress slowly.

Glycosuria is a disease that has offered a good field for the combined investigations of the chemist and physiologist.

Dr. Purdy, of Chicago, in writing upon the treatment of this disease (*Ped. Med. Mon.*), says that though Claude Bernard showed that its elemental cause consists in some disturbance of the central nervous system, death in

these cases is due to the perverted function of organs widely apart from the brain. It has been further proven that by the correction and control of this perverted function the patient may survive almost indefinitely.

The hydrocarbon foods, of which starch forms a large part, are the chief source of sugar in the human system, but it has been found that even purely nitrogenous material may be transformed in the liver into glycogen. The most approved method of treating diabetes is the proper restriction of the diet.

Dr. Purdy unhesitatingly says that all the so-called diabetic flours, breads and cakes are loaded with hydrocarbons, and, for this reason, are a "snare and a delusion." He advises the moderate use of almond meal as a substitute for bread. This meal when beaten up with eggs, may be raised with the aid of a little baking powder, and baked in small tins in an oven. The "skimmed milk treatment" he found chiefly useful as a means of starving obese patients. The liver of quadrupeds should be avoided, as well as certain fish, oysters and the interior of crabs and lobsters. Nearly all the table vegetables are inadmissible; among the least may be mentioned spinach, lettuce, olives, cucumbers, mushrooms. Brussels sprouts, turnip tops, water-cresses, cabbage, cauliflower and the green ends of asparagus. Nearly all nuts are objectionable, chestnuts forming an exception.

Continuing, Dr. Purdy gives a strict diabetic diet as follows: Meats of all kinds except livers; beef roasted, broiled, dried, smoked, cured, potted or preserved in any way except with honey, sugar or prohibited vegetables. Mutton, ham, tongue, bacon, sausages. Poultry and game of all kinds. Soups made from meats without flour or prohibited vegetables. Eggs, butter, cheese, pure cream, curds, oil, gelatine and unsweetened jellies. Fish of all kinds except oysters and the inner parts of crabs and lobsters. Bread, biscuits and cakes made from almond flour. Spinach, lettuce, olives, cucumbers, mushrooms, water-cresses, green cabbage. Almonds, walnuts, Brazil nuts, filberts, butternuts, cocoanuts. Salt, vinegar and pepper.

Drinks.—Tea and coffee, mineral waters, whisky, gin and brandy, in moderation. Claret and Rhine wine.

The amount of food given should be just sufficient to maintain the patient's strength, as in the majority of cases simple restriction in quality alone is not sufficient to cause the disappearance of the sugar from the urine.

Dr. Purdy regards drugs as practically useless in the treatment of the disease, except to correct accompanying disturbances, such as dyspepsia and constipation.

He says that constipation, mental emotion and fatigue predispose to diabetic coma. If the early indications of this complication are observed stimulants and hot baths should be resorted to without delay. An ounce of citrate or tartrate of soda dissolved in a pint of water may be given three or four times a day.

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## Atrophy of the Optic Nerve Following Forceps Delivery.

Dr. DeBeck reports a case in the *Lancet-Clinic* in which a woman, 39 years of age, had been blind in the left eye from early infancy. Two linear depressions in the patient's skull were made (according to the statement of the patient's mother) by pressure of the forceps during the birth of the patient. The depressions are on opposite sides of the head, one being an inch and a half in length and situated a half inch above and parallel to the left eyebrow. Dr. DeBeck rightly concludes that displacement of the bones forming the apex of the orbit caused the atrophy which now exists by pressure upon the optic nerve. This accident occurred nearly forty years ago, but it may serve as a warning against the careless use of forceps.

Cases have been reported in which sudden and complete loss of vision have been the result of fracture of the bone surrounding the optic foramen, when thorough examination, including the use of the ophthalmoscope, failed to discover any other evidence of a lesion. In these cases optic atrophy followed, and pressure on the nerve was found at the post mortem.

### Tennessee State Medical Society.

This society met in its regular annual session at Nashville, April 30, May 1 and 2, with the president, Dr. T. J. Happle, of Trenton, and the secretary, Dr. D. E. Nelson, of Chattanooga, at their places. The treasurer reported $169.68 as the financial solidity of the society. A report was made that, after 40 years of solicitation, the legislature had at last passed a law regulating the practice of medicine. Though far from perfect, yet it was a great gain and should receive the hearty support of all. The society recommended the following for appointment as a board of examiners: C. Deadrick, Nashville, J. B. Murfree, Murfreesboro, D. D. Saunders, Memphis. A resolution requesting the legislature to pass the bill now pending requiring the registration of births and marriages was carried.

The following officers were elected: President, Duncan Eve, Nashville; Vice-Presidents, Drs. Henry Berlin, Chattanooga; J. B. Neil, Marshall, and J. P. C. Walker, Dyersburg; Secretary, Dr. E. D. Nelson, Chattanooga; Treasurer, Richard Cheatham, of Nashville. The next meeting will be held at Memphis, the second Tuesday in April, 1890.

### Fatal Case of Diphtheritic Paralysis.

Dr. Stair, of Iowa, reports a case in the *Med. Rec.*, in which a child, nine years of age, had diphtheria which ran a moderately severe course of five days. Four weeks later paralysis of the palate muscles occurred, and this was followed by paralysis of the vocal muscles and of the lower limbs. This lasted about three weeks, at which time paralysis of the heart took place, producing death.

### Parotitis Communicated from Boy to Dog.

Dr. Poore, Kentucky, writes the *Med. Rec.* of a case in which atrophy of the testicles of a boy from metastatic mumps produced a marked change in the disposition of the patient who "is now quiet and unassuming, never boisterous, willing 'to live and let live,' an attribute he did not possess previous to having the mumps."

The patient had a dog, of quiet disposition and fond of his master. The dog contracted the mumps and had swelling of the testicles which were still much hypertrophied. He now avoids his master, is boisterous and will not cultivate friendly relations with other dogs of his sex.

### Dr. Flint's Tonic.

In the *N. Y. Med. Jour.* of May 18, Dr. Austin Flint gives the formula of a saline and chalybeate tonic which is now prepared by several leading drug houses in New York City in the form of tablets. For the last two years Prof. Flint has prescribed this tonic in nearly every case in private practice, in which a chalybeate was indicated. In thirty-five cases which he had noted as cases of anemia, loss of appetite, etc., there was marked improvement in twenty-two, improvement less marked in twelve, and no change in one. He thinks this an excellent remedy in Bright's disease. The following is the formula:

| | |
|---|---|
| Sodii chloridi (C. P.), - | ʒiij. |
| Potassii chloridi (C. P.), | grs. ix. |
| Potassii sulph. " | " vj. |
| Potassii carb., - - | " iij. |
| Sodii " (C. P.), | grs. xxxvj. |
| Magnes. carb., - - | grs. iij. |
| Calc. phos. prescrip., | ʒss. |
| Calc. carb., - - | grs. iij. |
| Ferri redacti, - | grs. xxvij. |
| Ferri carb., - | grs. iij. |

M. In capsules No. 60.

Sig. Two capsules three times a day after eating.

### The Use of Solvents in Cases of Renal Calculus.

Dr. A. J. Johnson says, (*Can. Prac.*) that a patient who habitually passes urine in which lithic acid, or brick-dust-like substance forms a sediment, will sooner or later develop

symptoms of gout or stone. This condition of the urine, he thinks,is due not to defective action of the kidneys but to defective assimilation on the part of other organs—an overloaded or torpid condition of the liver. His treatment is the administration of sulphates of magnesia and soda, preferably in the form of natural mineral waters.

Continuing he says:

"Three-fifths of all the calculi which form in the kidney or bladder of adults are composed of uric acid or the urates. The other two-fifths, or nearly so, are phosphatic. In three or four per cent the stone is formed of oxalate of lime, and in one in many hundred of cystine. The uric acid calculus is found in water abounding in acid, the excess of which is expressed by the stone. The phosphatic stone is the product of alkaline urine, generally ammoniacal, of which condition it is the result. The urates, oxalates and a few of the phosphates are found in the kidney, and are the product of certain constitutional derangements above alluded to. The greater part of the phosphatic material, whether in mixed or in phosphatic stones, is produced solely in the bladder, and is the product, not so much of any constitutional state, as of a local diseased condition. If we examine these calculi still further, we will find that a difference exists in their nuclei also. The nucleus of the oxalate of lime calculus consists, not of mucus of epithlium, as is generally the case in the phosephatic stone, but is of the same composition as the exterior. The little mass is seen under the microscope to consist of a number of dumb-bell crystals firmly attached to one another.

When a uric acid stone has formed he gives his patient the carbonate or citrate of lithia in a tumbler of Bethesda water three or four times a day. He combines careful diet with this treatment. Alcohols, sugars and fatty substances are to be avoided, and care taken not to catch cold.

The greatest care should be taken to determine, by an analysis of the urine, the composition of the stone, as the treatment for uric acid concretions is likely to increase the size of a phosphatic calculus.

If a stone be found in the bladder it is most likely phosphatic, and Dr. Johnson thinks a good deal may be accomplished in many cases by injecting solvents into the bladder. If the lining membrane is irritable he advises that the urine be drawn off twice each day, and the cavity of bladder washed with one-third to one-half a grain of sugar of lead to one ounce of water, or one to three drops of dilute hydrochloric acid to the same quantity of water.

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## Electric Door-Opener for Use in Asylums.

Dr. M. J. White, Superintendent of the Milwaukee Hospital for the Insane, has invented an apparatus, by means of which the doors of a building may be unlocked, opened and kept open, simply by closing an electric current by pressing on a button, in the superintendent's room. This is certainly a humane invention and the apparatus should be placed in every insane asylum that is not built absolutely fire proof. In asylums the freedom of the inmates must depend absolutely upon the superintendent or his assistants; no fire escapes to be utilized by the efforts of the patients are admissible, and the horrors that have been recorded of the burning of these unfortunate prisoners in their prisons attest the futility of depending upon attendants to unlock each door separately. As a therapeutic measure, too, it is of value. The attention of the profession has been recently specially directed to the importance of treating the insane in a manner that admits of as much freedom as is combatible with safety and especially to relieve them of all causes of alarm. Many of them are perfectly sane on all subjects but one, and it would certainly be a relief to their minds to know that they would be free to escape from the building in case of fire.

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## Expert Testimony.

Dr. W. H. Mayo, of San Francisco, has been placed in jail for refusing to give ex-

pert testimony without remuneration, in a criminal case before the Supreme Court at San Bernardino, Cal.

Dr. Morgan called the attention of the Cal. State Med. Society, which was in session, to Dr. Mayo's situation and presented the following address and resolutions which were unanimously adopted:

Mr. President:—This Society has heard with pain and regret of the imprisonment at San Bernardino, Cal., of one its respected members—Dr. W. H.Mays, of San Francisco. We deeply sympathize with him in the wrongs he now suffers. We recognize the justice of the claims he asserts. We urge him to stand firm and to bring the matter once for all before the highest Courts of the State. We hereby pledge him and all similarly placed, our active symphathy and financial support. We cannot find words adequate to express our condemnation of this action of the San Bernardino Judge, so contrary to all the true ideas of justice and equity, by which a disinterested professional citizenhas been removed from one end to the other of the State, and then ordered to give up his profrssional time and acquirements without compensation therefor, or be thrown where he now is—in jail. We properly call this act an outrage on justice.

*Resolved*, That this Society authorize the President hereof to appoint a committee to take such measures as may seem best calculated to support Dr. Mays in his just position, namely, employment of counsel, etc., to carry this matter up to the Supreme Court of this State.

*Resolved*, That this Society will bear all the necessary expenses of all legal action involved in the settlement of this question now pending between Dr. Mays and the court of San Bernardino.

*Resolved*, That the President of this Society immediately telegraph the following to Dr. Mays:

*Dr. W. H. Mays, San Bernardino, Cal.*: Your communication read before the Society, which greets you and says: "Stand firm." It pledges you its financial and moral support in the legal settlement of this case.

It is to be hoped that this matter will be pushed to a final issue and that the just rights of physicians may be recognized by the law.

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### Transplantation of the Skin for the Cure of Ectropion.

Dr. Gradle, of Chicago, reports a case of ectropium (*West. Med. Rep.*) on which several operations had been performed with little or no success. The available skin near the lids having been used up, he antisepticised a portion of one of the patient's arms, transfixed the skin at this point and cut a flap somewhat larger than the wound he wished to fill in the lid. The flap was left attached till the operator had attached a piece of goldbeater's skin to the outer surface; the flap was then cut loose and placed on the prepared surface of the lids and held in position by the overlapping adhesive plaster, without the aid of sutures. Union took place and the result was a complete success.

Dr. Starkey reported a similar case and described his method of operating. He advises that the skin, as soon as detached, be placed in tepid water that has been boiled, and every particle of fat or connective tissue on the under surface should be removed. After this the flap is placed in position and held by adhesive plaster.

The success of Dr. Gradle's case proves that it is not always necessary to place the flap in water, and it is much easier to transplant it without doing so.

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### Warm Food Versus Drink.

The *London Lancet* says that if some arrangement could be effected by means of which persons employed in large factories could heat their lunch at noon, at their place of business it would add much to their health, comfort and contentment, and the cup that so often inebriates those it cheers would not then be, as it now too commonly is, the only article of diet possessing any apparent pretensions to worth.

Hot coffee, if taken by the laborer with his

lunch, would in many instances appease his desire for other stimulants. This is a matter worthy of the consideration of owners of large factories.

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### Whose Misfortune?

The editor of the *Md. Med. Jour.* in speaking of the John Hopkins Hospital says: "The next important step is the building of a medical school, and unfortunately this will not be done very soon." Someone said there were enough medical colleges in this country already. This seemed strange when first it was heard but it was soon learned that the speaker had not the ghost of a chance for a professorship.

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### Counter Irritation in Whooping Cough.

Dr. Inglott, District officer of the Island of Malta, writes to the *Brit. Med. Jour.* of the success which he has had in the treatment of pertussis by the application of strong counter irritation of the pneumogastric nerve between the mastoid process and the jaw. One case is quoted of the many which he has had under treatment:

G. C., a boy, æt. 12 years, of weak constitution, was suffering from frequent and intense attacks of whooping cough. At a time the fits were so vehement that blood came out of his eyes and mouth. The case was a severe one and I thought it would very likely end fatally. I prescribed several medicines, and even subcutaneous injections of morphine, but without any avail. I then tried for the first time the counter-irritation on both sides of the neck, and this means acted like magic. In four or gve days the patient recovered, and was able to go to school. Since that time I have been applying the same treatment, either on the right side only or on both, with the greatest benefit."

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### MEDICAL ITEMS.

The *Medical News* says that the legislature of Pennsylvania has recently ignored a plea for milk inspection for a populous section of the State and has also defeated a praiseworthy attempt to secure legislation against food adulteration throughout the commonwealth.

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A Paris chemist has been fined one hundred and twenty dollars and ordered to prison for fifteen days for selling morphine to a patient without a prescription from a physician.

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Dr. Werder, of Pittsburgh, performed a successful laparotomy for extra-uterine pregnancy. From his reports it seems that the only parts of the product of conception found were "the fetal membranes and a placenta with umbilical cord."

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Dr. Tiffany, of Kansas City, uses the electro-cautery to destroy the granulations of trachoma.

As a rule, the more active the remedy applied to trachomatous lids, the greater the cupping of the tarsal cartilages.

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M. Huchard holds that in the majority of cases a permanent slow pulse is the result of sclerosis of the arteries the result of bulbar ischemia. The pulse may not beat faster than thirty per minute. In one case that came under his observation, quinine, a vasoconstrictor, had a very untoward effect. He prefers in these cases to give trinitrine, three drops twice daily, in an alcoholic solution.

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Dr. M. Stickney writes: "The air of a cellar should be pure and sweet and dry. In a foul cellar lurk diphtheria and membranous croup, ready to destroy the children, and typhoid fever, rheumatism, neuralgia, etc., that strike at all ages. Sickness and death is not a disposition of Providence, but the result of our own nastiness and carelessness. Disease is not cured by drugs, but by correct living."

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Dr. Duvall writes (*Mary. Med. Jour.*) that he practices upon the principle—"an ounce of prevention is worth a pound of cures." Following each labor case which he attends he

directs the mother to take five grains of quinine night and morning. He does not say how long he continues this treatment. In a case recently under his care a scarlintiniform rash made its appearance on the fourth day. The medicine was discontinued, a cathartic given and the eruption subsided, but was followed by a swelling of the skin similar to that produced by a bee-sting. Desquamation began on the seventh day. There was no fever at any time.

If a physician commits himself to a routine practice in the treatment of any class of cases, he should not fail to follow Davy Crockett's advice, making sure that he is right.

## SOCIETY PROCEEDINGS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, April 24, 1889. The President, W. W. Keen, M.D., in the chair.

Dr. Frederick A. Packard read a

#### Report of a Case of Spinal Hemorrhage.

The following case is of interest as one of hemorrhage into and possible partial rupture of the spinal cord in its upper portion, the patient having recovered in spite of the great extent of the consequent paralysis.

The patient applied for treatment at the Medical Dispensary of the Episcopal Hospital in March, 1889, giving the following history:

F. R., white, æt. 38 years, was born in New Jersey; lives in Philadelphia, sparmaker by occupation.

He has been married for 15 years and has 3 healthy children. His family history is purely negative, except for the fact that one sister died in childhood from "some brain trouble."

He has always been a very strong, healthy man, having had no previous illness, except malarial fever, of which he had attacks at various times until 3 or 4 days ago. He has been a very moderate drinker. Has had no venereal trouble of any kind.

He felt in his usual condition of health, and did a full day's work at his trade on September 22, 1888. In the evening he drank some old ale, not enough to actually intoxicate, but enough to make him a little uncertain in his gait and "boozy." He went upstairs at 11 p. m., and when near the top of the first flight of 14 steps lost his balance and fell to the landing on the first floor. He is positive that he fell from lack of balancing power and vertigo, and not from loss of power. The back of his head and neck struck the washboard at the foot of the staircase, while his back was bent over the edge of the lower step. He endeavored to move, but found that he had no power in extremities or trunk. He thinks also that common sensibility was lost from below the shoulders. His breathing, he remembers, was rapid, and there was a sensation as of a heavy weight pressing upon the chest.

When found he was able to talk, see, and hear perfectly well, but was unable to use any muscle below the shoulder-girdle. There was no loss of consciousness, nor had he any convulsive movements. He felt as though the hands and feet were cold, and his impression is that they were soon found actually to be so by his family.

Physician was summoned and administered a powder that produced sleep. On the day after his fall he was undressed and put to bed. Hot irons were applied to his feet and he was catheterized. He lay in bed perfectly powerless, except for head and neck, for 2 weeks, at the end of which time he became able to move his right shoulder. At about this time (*i. e.*, the end of 2 weeks) there were noticed a linear series of blisters on the soles running from ball of foot to heel. Nothing could be elicited to throw any light upon the question as to whether the blisters were traumatic, due to accidental contact with the hot iron, or trophic, although the former origin is much the more likely. Soon after regaining some power in the right shoulder he became able to accomplish coarse movements with the arms. At the end of 3 weeks he regained some power over the right

leg. The left leg remained powerless for 2 months. At the end of 6 weeks he was able to get out of bed with assistance, but was merely able to sit on the side of the bed, and that for not more than 15 minutes, owing to a feeling of being crushed from above. At this time (6 weeks after his fall) he also first regained sensation, beginning in the thumb and index finger of the right hand and gradually extending to other parts.

During this time he had but little, if any, fever until the fifth week of his illness, when he had a pronounced chill followed by fever, and in 4 days another chill. After his second chill his "temperature reached 106°" on one occasion, at which time he was for a while delirious. He had no bed-sores at any time (careful attention having been directed to the condition of his skin). His bowels were extremely constipated, and catheterization was necessary for 2 months. He ate well. Sleep was broken by a feeling of intense soreness across the back. He had no very severe pain, but felt as though a tight belt were being drawn about the chest and abdomen.

H first noticed twitching of the muscles and extremities about 3 or 4 weeks after his fall.

Shortly after turning his sixth week he was propped in a chair, after which time he gradually became able to walk with a great amount of assistance, nor could he trust himself alone until 2 months ago (4 months after his injury). At that time he thinks that he had regained as much sensibility as at present.

His condition at time of presenting himself at the Dispensary was as follows: General health seems good; he eats and sleeps well; the bowels are constipated, being unmoved for a week at a time unless aided; his urinary apparatus is apparently in good working order; he has no symptoms referable to the heart; he gets short of breath easily and, in addition to a sensation of weight upon the thorax, has a pronounced "girdle-pain;" he has not, nor has he had, any vomiting or hiccough, his hearing is excellent, but his vision seems to him to be impaired; he has almost constant pain in the back of his neck, at times shooting over the occiput in straight lines on either side; his greatest complaint is of weakness in arms and legs, most marked on left side, and of course tremor occurring in all but a few positions that he assumes; he is able to walk about one block with the aid of a cane, but having accomplished that distance his right knee gets stiff and he is unable to lift the toe from the ground; he has both sexual desire and power.

Examination of the patient revealed the following conditions: Intelligent man, well nourished; speech natural; face and neck appeared entirely normal except for slight myosis. Examination of the pupils showed that they were equally contracted when shaded, but reacted feebly to light. There was no accommodative change in the size of the pupil.

Heart and lungs normal. The urinary examination was negative except for a slight excess of mucus, as revealed by microscope. He stands with the knees in slight over-tension, the feet apart and the body inclined forward from the hip. On walking with the aid of a cane there is seen to be a marked spastic gait with some flinging of the feet in addition. On throwing the weight of the body from the hinder to the advance foot there is seen to be a marked clonus in each, more marked in the advance foot, and while produced in the forward foot by the weight of the body upon the ball of the dragged toes, it is, a little later, produced in the hinder foot by the effort of pushing the body forward by the ball. On closing the eyes there is marked oscillation, but apparently in great part from weakness, as the same symptom, to a very slightly less extent, occurs with the eyes open when he is deprived of his cane.

The spine is straight and regular. At the 4th and 8th dorsal spines are points tender on percussion. The muscles of the back are markedly wasted.

Breathing is entirely abdominal at rest. Forced inspiration is accomplished practically entirely by means of the diaphragm and

the muscles of the neck, including the platysma myoides. The intercostal spaces are plainly marked and not obliterated by the respiratory acts. On the occurrence of a deep inspiration there is marked bulging in the left lumbar and iliac regions as compared to the right, showing probably more powerful diaphragmatic contraction on the right side, or possibly more powerful action of the right parietal abdominal muscles. The grasp is weakened, particularly and markedly on the left side. The nails show no transverse markings.

The sterno-cleido-mastoid, platysma, trapesius, and levator anguli scapulæ of both sides are well preserved, as are also the supra- and infra-spinati. The serratus and latissimus dorsi are on each side wasted and feeble.

Both arms appear wasted, the right slightly, the left markedly. On the right side the deltoid is of a size disproportionately large as compared with the arm, on the left side it is more equally wasted. Both arms can be abducted, the left with but small force. The right biceps is small but firm, the left is much wasted and flabby. The triceps on the two sides show the same relative conditions. On each side the (clavicular) portions of the pectoralis major are in good condition, whereas the lower (sterna) portions are only seen on exertion and even then only with moderate distinctness.

Supination is very feeble in the left arm; in the right arm it is more forcible. The fingers are kept in a position more marked than semi-flexion, as is more markedly seen on the left side. Power of extension of the right wrist and fingers is feeble; on the left side extension beyond a right angle is impossible. The intrinsic muscles of the hands are wasted; on the left there is almost complete absence of thenar and hypothenar eminences.

Both thighs and legs on each side are wasted, the left much more than the right. The left thigh and leg, when patient is seated, cannot be elevated even by great force on his part. The right can be but slightly raised from the chair seat.

There is very marked "clasp-knife rigidity" of the knees.

There is no marked alteration in tactile sensibility.

Of the superficial reflexes none could be elicited except the abdominal and cremasteric, and these were but poorly marked.

All of the "muscle phenomena" were marked, there being present: Knee-jerk in great excess, ankle clonus, paradoxical muscular contraction of the flexors of the ankle, great toe reflex, wrist and triceps reflexes. The phenomena excited by forcible flexion of the great toe only existed to the extent of contraction of the inner hamstring muscles.

In regard to the action of electricity there was found to be diminution in faradic excitability to a slight but noticeable extent, while to the constant current the excitability was much diminished.

Time did not permit of a detailed examination of all or even the principal muscles for qualitative changes. Those tested were the deltoids, biceps, quadriceps femoris, and the muscles of the calf.

In all the formula presented was uniformly: 1. KClC; 2. KOC; 3. AnClC; 4. AnOC. The strength of current required to obtain KOC was five cells of a Fleming galvanic battery, more than were required to develop KClC; that for AnClC one or two cells more than were necessary to develop KOC, while many cells had to be added to obtain AnOC.

Examination of the eyes, kindly made by Dr. Randall, showed no abnormality except for hypermetropia, the fields of vision showing no change.

Taking the history and conditions present in this case, there would seem to have been hemorrhage into and around the cord with probably also partial rupture. That the lesion was hemorrhage or in the nature of partial rupture is made certain by the sudden onset in a previously healthy man of paralysis of motion and lost of sensation. That it was high up, in the cervical segment, is shown not only by the history of complete motor and sensory paralysis below the shoulder-girdle, but also by the signs presented at the present time.

The conditions no doubt have been a hemorrhage into and around the cord at about the 6th cervical segment, with probably partial rupture of the cord on the left side of the median line. This primary effect was followed by shrinking of the clot and restoration to some extent of the abolished functions. Secondary myelitis probably then occurred with, later, the descending degeneration of the lateral columns giving the greatly increased myotatic irritability below the parts supplied by nerves from the injured area. A secondary meningitis also probably occurred about the site of the lesion giving rise to the pain in the nape, and possibly also to the "girdle-pain" of which he now complains. There are no signs to indicate any posterior ascending degeneration, but the lesion is so high up in the cord that they would be difficult of recognition.

Concerning the reactions obtained with the galvanic current, I do not know what significance the formula 1. KClC; 2. KOC; 3. AnClC; 4. AnOC may possess. It is rather hard to see how it can indicate degeneration from polar-cell disease, since it is so widely distributed beyond the site of the lesion as to preclude the idea of direct damage to the multipolar cells in the dorsal and lumbar regions.

## SELECTIONS.

### SYRINGOMYELIA.

By occasional contributions our knowledge of syringomyelia is becoming more certain and its differentiation more easy. It is a disease in which the cord contains cavities of abnormal size and distribution. As an anatomical curiosity it has been known for two centuries; as a type of disease it has only been clearly recognized during the last ten or twelve years. In Germany and France somewhat numerous contributions to its literature have been made during the recent years; English and American medical writers have supplied but few. Gowers' "Treatise on Nervous Diseases," however, contains a valuable discussion of the pathology of the affection; and Starr, in May, 1888, published in the *American Jour. of Med. Sci.* an interesting summary of its literature, pathology and symptomatology. Debove and Dejerine (*Gaz. Hebd.*, March 1 and 8, 1889) have furnished two ofthe most instructive recent papers in the form of carefully detailed records of two patients who were exhibited before one of the French medical societies.

The rapidity with which, in this age of medical enterprise, the literature of a subject grows is shown by the fact that five years ago Furstner's collection of four cases, with autopsies, was quoted as a valuable paper to the subject, while in 1887 Baumler had succeeded in collecting one hundred observations—66 with autopsies and clinical histories, 25 purely anatomical observations, and 10 purely clinical cases.

Cases of syringomyelia vary greatly in symptomatology according to the size, location and ramifications of the cavities within the spinal cord, as well as according to the congenital, stationary or progressive character of the disease. A certain more or less regular syndrome is characteristic of the ordinary form of the affection. It is, in brief, one of atrophy, with paralysis irregularly distributed and progressing; peculiar disturbances of the sensations of pain and temperature, and marked vaso-motor and trophic disturbances, such as cyanosis, heat and flushing, eruptions, ulcerations, abscesses, changes in the excretion of sweat, and affections of the bodes. The picture presented by Dejerine's patient was one of atrophic paralysis, which began at the age of 25 years, affecting the upper limbs and trunk; fibrillary contractions; scoliosis; no impairment of touch, but marked loss to sensibility to pain and temperature, particularly in the upper part of the trunk, the upper limbs, and the right half of the face; integrity of the special senses; abolition of the olecranian reflex; exaggeration of the knee jerk; no marked trophic cutaneous disorders, but smoothness of the skin of the upper extremities; slight swelling of the inferior extremities of the radius and

ulna; modifications in the secretions of sweat and reactions of degeneration in certain muscles. Among the most striking disturbances in this case, and commonly in syringomyelia, were those of sensibility; and to these, in consequence of their importance, it may be worth while to refer a little more in detail.

At the commencement of the affection, in 1848, the patient noticed that his sensibility was defective. He could even then be touched by hot liquids without feeling it. In 1888, 50 years later, he showed the same troubles of sensibility, and thought that they had neither increased nor diminished. Tactile sensibility was absolutely normal in the trunk, the face and limbs. Sensibility to pain was much impaired at the level of the hands, fore arm, arm, shoulders, and the upper part of the trunk before and behind, as far as a circular line passed under the breasts. A very sharp prick of a pin was not perceived as painful, although it seemed to the patient as if some one had touched him. Analgesia was also present over the entire half of the head. When a needle was drawn across from right to left he felt a sensation of pain as soon as it approached the median line. There was no retardation of the transmission of sensation. Touching him with a bottle filled with ice on the entire skin of the face, neck and throat, the upper limbs, shoulders, arms, fore-arms and hands, he scarcely felt a sensation of cold. The lower limbs, the entire abdomen, and the trunk above the circular line passing under the breasts were normally sensitive to cold. The patient, however, felt no difference of temperature between 30° and 50° in the same region. In the left face only sensibility to heat was preserved, and a difference in temperature between 35° and 44° clearly perceived. Applying a bottle of water at 85° to the extremity of his fingers, he felt after some seconds a lively sensation of heat, but over the rest of the cutaneous surface mentioned water at the same temperature held on the skin for any length of time did not produce any sensation of heat.

The duration of syringomyelia is very variable; often it remains practically stationary for a long period. The case reported by Dejerine is striking, among other things in the history of its long duration. Active symptoms of the malady first showed themselves in this patient in 1848; in 1852 he was examined by Duchenne; and Louis and Briquet, among other lights in medicine, later discussed this interesting but unfortunate patient. The examination upon which Dejerine's communication is chiefly founded was made by this physician in Jan. 1888. The patient is still living, 50 years after pronounced symptoms were first observed.

The diagnosis of a typical case of syringomelia may now be regarded as not particularly difficult; but the frequently irregular character of its symptoms may cause it to be confounded with other affections, as progressive muscular atrophy, anterior poliomyelitis, particularly in the adult, amyotrophic lateral, disseminated or posterior spinal sclerosis, bulbar paralysis, hypertrophic internal pachymeningitis, and some forms of myelitis and neuritis. Cases of syringomyelia have been reported as instances of irregular forms of these various diseases. In syringomyelia, indeed, these affections do exist both in pathology and symptoms; there may be, for instance, ascending degeneration of some parts of the cord, and descending of others; the gray horns may be the seat of destructive disease; nerves may atrophy, and not rarely the nuclei of the nerves of the bulb are attacked. The point to be remembered in making a differentiation of syringomyelia is, that a certain spinal bombination and order of development of symptoms are characteristic of an affection whose essential pathology is abnormal holes in the spinal cord, and that the affections with which it is confused are usually the result of pressure or of extension of the original disease.

A curious point in diagnosis is the fact mentioned by Dejerine, that one of the most difficult affections to distinguish clearly from syringoymelia is anesthetic leprosy, now generally regarded as a form of multiple neuritis, the clinical tableau presented by this disease being often, in brief, Aran Duchenne

atrophy, analgesia, thermo-anesthesia and severe trophic affections. This error of diagnosis has been made in reported cases, and Dejerine regards it as almost inevitable in the absence of the prior manifestations and etiology of leprosy. Abnormal cavities in the cord sometimes exist without giving rise to active symptoms. Gowers says that this is particularly the case in young children.

The phenomena of syringomyelia have thrown some light on disputed problems in spinal localization. The clinical history of cases shows the frequent presence of trophic disorders of the bones, skin, nails and bladder, as well as of the muscles. This is, so far as it goes, confirmatory of the localization of all trophic centers, except those of the muscles, in the central gray matter of the cord, and is corroborative to a certain extent of the view that the vescular column of Clarke in the posterior horns is a region of vegetative centers; at any rate, in the central part of the gray matter of the cord, as stated by Starr, the vaso-motor and the trophic centers for the integument, finger-nails and joints may be located. The existence of marked depression or absolute loss of the sensations of pain and temperature, with preservation of tactile sensibility, is corroborative of the difference in localization of the paths for the conduction of tactile sensibility and of those for pain and temperature. It shows the probable identity or close anatomical relations of the latter tracts, and the distinct anatomical situation of the former.

The clinical and pathological observations on syringomyelia, however, are not necessarily confirmatory of the localization of the tracts for the transmission of pain and temperature in either the central gray matter or the interior portions of the posterior horns. They are more probably rather in the ascending lateral tracts, as placed by Gowers, but as the tracts for these sensations are constantly decussating, probably on the posterior commissure, the destruction of this decussation is sufficient explanation of the changes in sensation produced by the disease.

From the very nature of the disease, treatment amounts to little or nothing. Hot baths have been used, and the various forms of treatment recommended for sclerosis, but with no permanent beneficial result.—*Med. News.*

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## THE TREATMENT OF INEBRIETY IN THE EDUCATED CLASSES.

It requires but little reflection to enable one to understand that the treatment of inebriety should be along very different lines according to the varying social conditions of the patient. This is true, indeed, of nearly all diseases the types of which often differ widely according to the surroundings of the patient, but of none is it more true than of nervous affections, and especially, perhaps, of inebriety. The inebriate who has been born and has passed all his life in the slums of a large city is very unlike, in both normal and physical constitution, the well-to-do gentleman, whose surroundings are the most refined, and who deplores his infirmity and shudders to think of the world of his associates becoming sharers in his secret.

The management of cases falling in the latter category is the subject of a communication read before the London Society for the Study of Inebriety, on January 1, 1889, by Mr. James Stewart. The author starts out with the assumption that in every inebriate there is an absolute degeneration of brain elements, and that upon this depends loss of will-function. This being admitted, the treatment should be so directed as to assist nature in her efforts to regenerate the injured nerve-tissue, to build up again the brain elements through the medium of which the will-power and other functions are exercised. In ordor to do this total abstention from alcohol is absolutely essential, and nothing containing alcohol, not even the lightest wine or beer, is to be permitted at any time even during the intervals of the drink-craving. The will of the patient being weakened, he must live under the constant supervision of the physician. For this purpose the author advises a residence in the country, in the home of

some medical man. The latter should not be in active practice, but should be in a position to devote his entire time to the patients, not more than five or six, entrusted to his care. If there be a greater number of "guests" than this, the domestic family feeling would be destroyed, and the inebriate will come to regard himself as in an asylum rather than a private house.

The life at home is to be made as little irksome as possible, and amusements of various sorts should be provided. The patient, if he have no literary tastes or no hobby, such as painting, wood-carving, or the like should be induced to take up something like photography which will consume much of his time and lead him out frequently into the open air. He should also be encouraged to take up pedestrianism, being accompanied in all his walks, of course, by the physician or his deputy, and should be taken frequently to public meetings, concerts, lectures, cricket-matches, and the like. The physician will be greatly aided by a pleasant and energetic wife, or female members of the family, who may assist in the entertainment of the guest in the home circle during winter evenings and at other times. If the patient is a lady the help of the physician's wife is, of course, absolutely indispensable.

This is briefly the plan of treatment advocated by Mr. Stewart for the intelligent inebriate who is earnestly desirous of overcoming his infirmity and is willing to submit for a period of a year to a moderate degree of restraint, putting his will to a certain extent in the keeping of the physician. But, and especially at the beginning, something more is needed than mere occupation. It is necessary to moderate as far as possible the craving for drink, which returns with almost irresistible force at frequent intervals, and also to overcome the depression from which the inebriate is usually suffering when he first reaches the house. For the latter it will be necessary to administer, at intervals of an hour or two at first, egg and milk, beef-tea, milk and lime-water, soda and milk, and other easily assimilated beverages. The sleeplessness from which almost all inebriates suffer at first is best treated by a draught composed of 20 minims of the solution of bimeconate of morphine with 10 or 15 grains of chloral, alternated for a few nights with other hypnotics. Sulfonal will doubtless be found very serviceable in such cases. The author protests against the idea that by the exhibition of drugs, such as capsicum, perchloride of iron, or strychnine, the craving for alcohol may be destroyed or kept under. It may perhaps be smothered for a while, he says, but he believes that by this treatment the physician is only substituting one enslavement for another. The same is true to a certain extent in respect to aerated beverages. Without absolutely interdicting the latter he recommends his patients to do without them, and to drink plain water at their meals and take plenty of milk with either tea or coffee, or, as he prefers to either of the latter, cocoa. The diet should be plain and unstimulating, and all condiments should be avoided at meals. If the patient suffer from pain in the stomach after the ingestion of food he should take large draughts of very hot water twice or three times a day. Smoking should be reduced if it cannot be entirely given up.

The author summarizes his conclusions, which he has arrived at as the result of constant clinical study during the last 12 years, as follows:

1. Drunkenness and inebriety ought not to be confounded.

2. Inebriety is a lesion of the brain which has gone so far as to affect the will-power.

3. Successful treatment based on this pathological dictum must include the absolute cessation of alcoholic drinking.

4. There is no danger in the sudden and complete withdrawal of alcohol if the case—no matter how severe—be in the hands of a skilfull physician able to personally direct the hourly treatment from the first.

5. The physician undertaking the charge of such cases ought to be a total abstainer, as well as everyone living under his roof, so that normal treatment by example may supplement therapeutic remedies.

6. Permanent recovery need not be hoped for unlesss both lines of treatment be pursued, systematically, during an uninterrupted period of 12 months in a "Home" from which every beverage containing the smallest quantity of alcohol is absolutely excluded. The first 4 months barely suffice for the getting rid of the stomach and other troubles which are the result of the alcoholic poison;at the end of the second period of 4 months the patient begins to feel less the want of alcohol; by the end of the third period he has begun, perhaps, to understand that life may be enjoyed and vigorous health secured without stimulants.

7. So called "cures" effected by bark, strychnine, iron, and other drugs have not proved permanent.

8. The permanence of a cure depends greatly on the after treatment pursued subsequently to the patient leaving the "Home."

The family of the inebriate, or the household of which he or she is to form a part, ought all to become total abstainers, no alcohol being allowed under any circumstances into the house except as a drug prescribed by a medical man and dispensed in a medicine bottle.—*Med. Rec.*

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THE DANGER OF CHLOROFORM BY GASLIGHT. —Several observers report a peculiar gas, formed in the room where chloroform is ad ministered.

It is thick and looks as if a fog were diffusing in the whole room, and smells like chlorin egas.

Prof. Iterson-Leiden reports several severe and unexpected asphyxias during chloroform narcosis, and even one death, which took place very suddenly after the operation was completed. The patient was conscious and had spoken, when suddenly she became cyanotic and ceased breathing. All efforts at resuscitation were fruitless.

After this the room was warmed by a stove the lighting of the gas dispensed with, and he had no more abnormal chloroform narcoses or asphyxias.

Dr. Fischer, during long operations, where chloroform narcosis lasts over half an hour, the gas has to be lit, notices that all present physicians as well as nurses begin to cough, and the irritation becomes stronger the longer they remain in the room; afterward come headache, vertigo, a feeling of apprehension, sickness of the stomach, and even vomiting in some cases. All these symptoms disappear upon going into the fresh air.

The secretion of the nose and sputa were increased and mixed with black dust particles. The evolution of the gas is not due to a bad construction of the gas lamps, for these symptoms were never recognized in the room where no chloroform was administered.—*Berliner Klin. Wochenschrift*, April 1.

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THE TOLERANCE OF IODIDES AS A DIAGNOSTIC SYMPTOM OF SYPHILIS.—A discussion has arisen between Dr. H. C. Wood and Dr. J. William White as to the fact of a special tolerance of iodides in syphilis and its diagnostic value. Dr. Wood stated that: "In all cases of doubtful diagnosis (of cerebral syphilis) the so called therapeutic test should be employed, and if sixty grains of iodide of potassium per day fail to produce iodism, for all practical purposes the person may be considered to be a syphilitic."

From this view Dr. White dissents, and to obtain support or otherwise for his position, he has secured the opinions of a number of eminent syphilographers and general practitioners, including Professors James Stewart, James Nevins Hyde, F. N. Otis, F. R. Sturgis, McCall Anderson, E. L. Keyes, Roswell Park, R. W. Taylor, William Osler, and Drs. John P. Bryson, John B. Chapin, and E. N. Bush.

Their letters, published in *The Therapeutic Gazette* of March, 1889, represent an enormous experience in the administration of the iodides, and ought, we should say, to settle the question. Without an exception the tone of the letters is decidedly against the position taken by Dr. Wood. While some admit that in tertiary syphilis patients, as a rule, stand large doses of iodides very well, the exceptions to this rule are too numerous to make it of any diagnostic value. The general opinion

seems to be that tolerance of iodides is a matter of personal idiosyncrasy, and is not modiby syphilis.

In commenting upon the letters, Dr. Wood modifies somewhat the statement we have first quoted, and says that in advanced syphilis iodide of potassium is usually tolerated much more freely than in health, and that this rule or coincidence is of sufficiently wide application to be of value in prognostication and treatment.

In the light of the evidence collected, even this proposition appears to be insufficiently supported.—Ed. *Med. Rec.*

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β-Naphthol in Typhoid Fever.—Dr. J. M. Clarke states that β-naphthol is a substance very insoluble and having at the same time sustained and powerful antiseptic properties. Moreover, it is only toxic in large doses—about 250 grammes in the twenty-four hours for an adult of average weight—While forty grains, or 2½ grammes, distributed over the twenty-four hours are sufficient to keep the intestinal contents aseptic. But while giving naphthol it is also advisable to control the pyrexia that necessarily occurs in the course of enteric fever, and so to prevent the damaging effects on the tissues and organs of the body of a long-continued high temperature; we should therefore, together with naphthol, administer an antipyretic, preferably, perhaps, antifebrin or phenacetin, whenever the temperature rises beyond a certain height, say 102° F. With regard to the best form of administering naphthol, it was given suspended in milk, and a small quanity of pure milk was taken after the dose. The doses must be administered frequently, in order to keep a constant effect, and small doses have also the advantage of not giving rise to the pungent after taste in the throat that naphthol is apt to produce. To adults it may be administered in gelatine capsules, or the following formula, which seems the most satisfactory after several trials, may be made use of; ℞. β-naphthol, gr. xx.; tr. aurantii, ʒij., syr. limonis, ℥ss.; mucilaginis tragacanthi, ℥iij; aq., ad ℥vj. Dose, ℥j. Dr. Clarke formulates these conclusions: 1. The production of intestinal antisepsis is a rational mode of treatment of enteric fever, and β-naphthol is a safe and tolerably efficient agent for this end. 2. By its use (in his cases) the duration of the disease was shortened, and the intensity of the symptoms directly arising from profound disturbance in the alimentary canal was lessened. 3. The tendency to the occurrence of splenic enlargement, albuminuria, and of secondary complications, such as boils, abscesses, etc., of purlent infective origin, is diminished. 4. Complete convalescence is more speedily and satisfactorily attained, and there is less risk of a propagation of the disease to others. Finally, we must bear in mind that in some patients naphthol may excite so much gastric disturbance as to prevent its use.—*The Practitioner.*

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Infection of an Infant Through the Milk of a Tuberculous Nurse.—Dr. Steigenberger, of Buda-Pesth, has recorded a case of tubercular infection through the nurse's milk in the *Pesther medicinisch-chirurgische Presse.* The facts of this interesting case are summarized as follows: An infant, aged five months, of healthy parentage, developed caseating cervical, glandular abscesses, of a distinctly tubercular kind. Microscopical examination verified the macroscopical diagnosis. Inquiry elicited the fact that the infant had been nursed, for a period of four weeks, by a woman who had to be discharged on account of phthisis, with abundant expectoration. The etiological relationship was thus clearly established.

The infection of human beings through the milk of tuberculous animals has been repeatedly shown, and there is, of course, no reason why the human milk should not carry with it the same pathogenetic power. But, so far as we are aware, the above case is the first in instance in which this method of transmission has been actually observed to occur. The inference is obvious, namely, to exercise the greatest possible amount of care in the selection of wet-nurses.—*Ex.*

THE STORY OF THE RAT'S TAIL is one frequently enlarged upon by physiological teachers, and it has become imprinted as a classic experiment in popular scientific literature and in standard text-books of physiology. M. Paul Bert was the original manipulator of the rat and detailer of the phenomena alleged to be produced in the ultimate appendage of the animal in question. M. Bert sewed the tip of the tail into the back of the rat. After it had taken root in its new position, he cut it off close to its original point of insertion. The rat now wore a tail reversed in position, the former tip being the root. After some time it was found that the new tail was sensitive. Conclusion, the nerves of sensation can carry impulses each way. Dr. Koch has recently performed this experiment on forty rats. In thirty cases the tails united satisfactorily, but never, even eight months later, was any sensation present in the new appendage.—*Ex.*

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THE PHYSICIAN'S FEE.—A decision was recently given in a suit for payment for services brought by Dr. Lange, of this city. Judge Brady, of the New York City Supreme Court, decided that, in an action by a surgeon for professional services, the plaintiff has a right to show that his standing in the profession is high as bearing upon the question of the measure of his compensation. The judge further said: "There is also evidence tending to establish a custom or rule of guidance as to charges of physicians for services rendered, and which makes the amount dependent upon the means of the patient—his financial ability or condition. This is a benevolent practice, which does not affect the abstract question of value, nor impose any legal obligation to adopt it, and cannot be said to be universal. Indeed, there does not seem to be any standard by which, in the application of the rule, the amount to be paid can be ascertained. Each case is under the special disposition of the surgeon or physician attending, and he is to decide as to the reduction to be made on account of the circumstances of his patient; and therefore, when the amount is in dispute, it follows that it is tobe determined by proofs to be given on either side. The measure of compensation must be controlled more or less by ability in all the professions, and the service rendered by its responsibilities and success."—*Ex.*

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INFECTIOUSNESS OF CROUPOUS PNEUMONIA—Dr. N. I. Sokoloff lays down (*Transactions of the Third General Meeting of Russian Medical Men at St. Petersburg*, 1889, p. 384) the following propositions, based on researches of his own: 1. Croupous pnemonia is an infectious disease. 1. Typhoid fever patients are especially liable to be infected with the pneumonic virus. 3. The mortality amongst typhoid fever patients contracting pneumonia is truly enormous; in fact, it amounts, on an average, to 66 per cent. 4. In view of this fact, every hospital must be furnished with special wards for cases of pneumonia. 5. When pneumonia makes its appearance amongst hospital typhoid fever patients, the latter must be at once isolated, and the wards concerned must be disinfected most thoroughly. 6. The pneumonia wards must be similarly disinfected before they are used for patients suffering from other affections. 7. In view of a considerable general mortality from croupous pneumonia—which, even with the best possible management, proves to be as high as 12 per cent.—as well as in view of the intense infectiousness of the disease, the strictest sanitary precautions should be adopted as soon as a pneumonia epidemic breaks out at a given locality.—*Med and Surg. Rep.*

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GOOD ADVICE TO STUDENTS.—In a recent lecture Dr. Goodell of Philadelphia, said: Another thing, gentlemen, unless you intend to pursue gynecology as a specialty and become laparotomists, it is not right for you to take these cases that may come to you from time to time, and operate on them. A short time ago I received a letter from a physician in a small town in which he also had a drug store, and who in his whole life-time will not have the opportunity of performing laparato-

my more than a half-dozen times, asking me if I could not teach him on the cadaver to do these operations.

The most successful laparotomists are the most experienced, and it is only within a few years that I have obtained such excellent results. When I look at my earlier cases I am grieved to see how great was the mortality I recall three successive oophorectomies, all of which I lost. Why? I do not know.

But I and other operators of to-day cannot always live, and must have successors; and if any one of you has made up his mind to become a laparotomist, let him commence at once and learn by experience; but I do not believe that it is right or just to patients for every surgeon to turn his hand to abdominal operations.—*Med. Times.*

LANOLIN.—The peculiarities of the natural oil with which wool is impregnated are such as to give this fat advantages over others as an ointment base. This fat contains cholestrin in place of glycerin, and does not become rancid. It is capable of mixing with a very large proportion of water. It is a yellowish white soft solid, and is said to be absorbed more readily than other fats. One is reminded in this connection of the peculiar oil with which birds are accustomed to dress their plumage. Have the peculiar properties of this fat ever been studied?—*K. C. Med. Rec*

## BOOK REVIEWS.

WOODS' MEDICAL AND SURGICAL MONOGRAPHS. Vol. I, No. 1, The Pedigree of Disease. By Jonathan Hutchinson, F.R.S. Common Diseases of the Skin. By Robert M. Simon, M. D. Varieties and Treatment of Bronchitis. By Dr. Ferrandi.

In this inaugural monograph the well known syphilographer, Mr. Jonathan Hutchinson, appears to advantage in a phylosophical dissertation on The Pedigree of Disease. It consists of six lectures delivered by him before the College of Surgeons in 1881.

The author endeavors to explain, in the first place, the meaning of the terms, temperament, diathesis, dyscrasia, idiosyncrasy, cachexia, etc., which indiscriminate use has involved in almost inextricable confusion; and, in the second, to explain the bearing that these states have on disease, and the relationship existing between the various affections which may be produced through their influence.

At this day, when so little attention is paid to this subject, in consequence of the reaction from a time when it was considered to be of the greatest importance, this will be of timely service to many who would like to obtain a clear, connected and reliable exposition of the arguments on that side of the question. This is to be found in the monograph before us; and besides the interest attached to the monograph itself, the simple fact that Jonathan Hutchinson is its author, stamps its value.

The second subject in this number is, perhaps, a more practical one, and also consists of lectures, in which Dr. Robert M. Simon presents his views on The Treatment of Common Diseases of the Skin. But little space is given to the discussion of the symptomatology or pathology of the affections considered, the etiology coming in for a larger share because of the closer connection it has with the subject in hand, the treatment of common skin diseases.

The following are considered in the order given: Pruritus, eczema, psoriasis, scabies, acne and ringworm.

As a handy and concise reference, we would recommend this to the busy practitioner of general medicine, who does not wish to go through the larger works on this special branch.

The third monograph is devoted to the study of bronchitis. This, too, is an embodyment of lectures (fourteen) delivered by Dr. Ferrand, Physician to the Laennec Hospital.

The several varieties of bronchitis, congestive, catarrhal, inflammatory, spasmodic and infectious, are defined with clearness and precision, and much stress is laid on their correct differentiation in practice, because of the more successful issue to which treatment on such a basis is likely to lead.

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## ORIGINAL ARTICLES.

### REPORT ON PROGRESS OF MEDICINE.

BY A. B. MILLER, M. D., MACON CITY.

Read before the Missouri State Medical Association, May 21, 1889.

Had we the powers of observation and the ability to correllate all the facts pertaining to the progress of medicine, we would not think of exhausting this field in our report lest the patience of our audience be first exhausted.

There are some points in progress that we have never heard presented to this body, and we believe worthy of our consideration.

PERITONITIS.

That medicine owes much to the achievements of surgery, none can deny. In nothing is this more clearly exemplified than in the treatment of peritonitis; in fact, under the light of the brilliant achievements of modern surgery this disease has also been relegated to that department of our healing art. The opinion is fast gaining ground that idiopathic peritonitis is of extremely rare occurrence, and not a few of the greater lights in the profession occupy the extreme ground that it does not occur idiopathically at all. However this may be, the fact is well established that many cases which formerly went on to speedy termination in death, can now be saved by the timely employment of modern surgery.

Aside from the surgical procedures that have been introduced for the relief of these cases there are some lessons which may be drawn for the guidance of the general practitioner, which may modify our treatment in no small degree. For many years opium has been considered the sheet anchor in peritonitis, regardless of cause, and we have all stood by the bedside of our patients thus afflicted and used it with unsparing hand, only to fold up our medicine cases in a few days and mingle our tears with the bereaved. Not only has this disease been the bane of those who practice the healing art, but for more than a quarter of a century the fury of all those in the field of abdominal surgery. So often were the hopes of the most skillful surgeons born to be wrecked in a peritoneal storm, that they shook off the shackles of time honored custom and sought by less empyrical methods to prevent these dire results. With Baker Brown, they were led to exclaim: "It's the peritonitis that beats us." That the method of treating peritonitis following abdominal section differs widely from the practice of the profession in this malady, as it comes under our observation, all will allow, and we feel that, as general practitioners, with the ill success which has attended our efforts, we may, with becoming propriety, sit at the feet of these modern surgeons and learn.

It is not my purpose in this report to proscribe the limits of therapeutic effort in the treatment of peritonitis, nor draw the line where surgical interference should begin, further than to suggest that in all cases where there is reason to believe that the disease is septic in character, surgical treatment should be resorted to. I sincerely hope that those more competent than I during the discussion of this paper will elucidate this important question.

Mr. Tait introduced the practice of using purgatives in peritonitis following abdominal section (1875). He says "I am perfectly satisfied, and I think the majority of practition-

ers who have tried it agree that the best treatment for peritonitis, especially when occurring after an operation, is the early administration of saline cathartics. It is a practice which I have not seen the slightest reason to depart from." He further says "opium is positively forbidden in my practice." Dr. Joseph Price, of Philadelphia, says: "I hold very strong convictions in the strictly good effects produced by the free use of salines in peritonitis after laparotomy." Dr. Penrose prefers the saline to the opium treatment in these cases. He thinks that in the early stages the disease may be cut short by the repulsive action of salines and in the latter stages it may save life by preventing intestinal obstruction. In a hundred consecutive laparotomies performed by Dr. Price and himself, he relied upon this treatment without the use of opium at all. In a personal letter of recent date from Dr. Robert Battey, he says he regards peritonitis following abdominal section as septic in character and that purgatives and not opium are indicated. He uses purgatives "in hope of removing septic material." He prefers castor oil or aloin to the salines. Dr. Byford, of Chicago, uses purgatives with good effect in threatening peritonitis in these cases, and opium only when needed as an anodyne. Greig Smith in both the first and second editions of his work upon abdominal surgery strongly advocates the use of salines in these cases. Gill Wyly, Baldy and Gardner are enthusiastic adherents to the same doctrine.

Wm. Goodell, of Philadelphia, has abandoned the opium treatment of peritonitis. He uses salines early, opium afterward, if necessary for pain.

The above opinions are gathered partly from personal letters from these distinguished medical men to me, and partly from the recent literature upon this question.

I might continue to add the names of medical men, no less worthy of mention, in support of this plan of treatment of peritonitis following abdominal section, but I forbear.

It is claimed for purgatives:

1. That their use imperils germs.

2. That they deplete congested peritoneal vessels.

3. That they drain off through the intestines serum contained in the peritoneal cavity.

4. That they prevent intestinal obstruction by keeping the bowel empty.

5. That they prevent the formation of adhesive bands.

Now in the light of all this clinical experience what whall we do? Shall we sing a requiem to the opium treatment in peritonitis? If peritonitis, as we find it in general practice, is seldom if ever idiopathic, does the treatment of it differ materially from the same disease following abdominal section? Here I leave the question with you, hoping that the votaries of the "opium treatment," if there be any, will give reasons for their adherence to the traditions of the fathers.

### Fevers.

In a paper read before the Academy of Medicine, Paris, M. Roussy gave as a result of his clinical and experimental researches upon the pathogenesis of fever, the isolation of chemical substances of microbian origin, which he named pyretogenine and which he found capable of producing typical attacks of fever. More than four hundred experiments were performed. The substances used were soluble products of yeast cells. Four substances were isolated, three chrystalline and one granular. The most active pyogenetic properties were found in the granular substance. The fever produced by it, he says, "describes its evolution in nine or ten hours and in three phases, during the course of which all the functional troubles characterizing an accession of palludal fever manifest themselves." "They seem to have the power, in a marked degree, of breaking up organic molecules by their presence alone." The further investigation of these substances will be watched with much interest.

Prof. Semola before the last International Medical Congress said: "The part played by bacteria in pathology is the production of certain noxious and decomposing elements of the blood, which substances, and not the bac-

teria, are the potent factors in the causation of disease. We feel that this is substantial gain and that we have reasonable ground for hope that further investigation along this line will be of the utmost benefit to the science of medicine. In the treatment of fevers, antiseptic medicine is still gaining ground. The treatment of typhoid fever is becomicg less empyric. The old antipyretics whose depressing effect was out of all proportion to their potency in lessening temperature are passing into disuse. The use of quinia as an antipyretic is happily being abandoned. Cooling baths, cleanliness, abundance of fresh air, strict dietetic regimen, with few remedial measures, constitute the treatment. Antipyrin and antifebrin hold sway as antipyretics in hyperpyrexia. The use of salacylate of ammonium in this fever is worthy of special mention. The attention of the profession has already been called to the efficacy of this remedy in typhoid fever through the columns of the *Jour. of the Am. Med. Ass'n* by Drs. Wick, Barnett and Jackson. It is claimed for this remedy, first, that it is in the line of antiseptic medicine and that it accomplishes intestinal disinfection; second, that it is an antipyretic of the most satisfactory character. That its antipyretic effect differs materially from other antipyretics in that the reduction of temperature is permanent, thereby indicating that its antipyretic effect is due in these cases to its neutralizing power, or the power in some way not yet understood, of antagonizing the toxemic agents which are pathogenic factors in this disease. The mortality of typhoid fever under the influence of this remedy is claimed to be reduced to three per cent. It is further claimed, when administered early, to have the power of aborting the disease. This claim has been advanced for so many remedies that further trial is unnecessary to establish this claim. It is usually administered in doses of grs. ij every two hours.

Perhaps it is worthy of mention that abdominal section has been recommended and practiced in perforation of the bowel in typhoid fever. The results, as yet, are not very satisfactory in changing the mortality record. The condition of the patient when perforation of bowel occurs in typhoid fever is so unfavorable for enduring an operation of such magnitude that but few have had the courage to undertake it. The prognosis in these cases, however, without surgical interference, is so unfavorable that we are not yet ready to say that the operation is unjustifiable. In fact, perforation occurs in extremely mild cases, and there can be no good reason why the patient should not have the benefit of this operation; besides the perforations are small and do not usually require resection.

### Phthisis.

Since the discovery of the tubercular bacillus by Koch, the expectations of the profession have not been realized in the treatment of this disease. That this bacillus, directly or indirectly through its life processes, stands in a causative relation to phthisis, is the commonly accepted opinion. There is one clinical fact that I desire to call the attention of the profession to in this connection, viz., that the constitutional manifestations in phthisis are by no means in proportion to the local expression of disease. How often do we find the most marked constitutional manifestations, especially in incipient phthisis, such as complete anorexia, great loss of flesh, and a loss of strength that is ominous, in cases in which the closest scrutiny can only detect a very limited portion of the pulmonary tissue involved. It was this condition of malnutrition, apparently antecedent to any local manifestation of phthisis, that led Fothergill to believe that the disease was one of malnutrition, a "ne'er do-weel" of the tissue family. (Fothergill's Handbook, page 185). These are clinical facts that it is difficult to understand and harmonize with the modern theory of this disease.

As might be expected, under the influence of the germ theory, therapeutic effort has been in the line of antiseptic medicine. Various antiseptic methods have been employed but with ill success. I will merely mention the use of lactic acid by inhalation, spray and

by the stomach. It is considered a powerful agent in the destruction of the bacillus tuberculosis, and its advocates claim to have been successful in the cure of laryngeal phthisis by means of this remedy. Its use in the diarrhea of phthisis seems to have given very satisfactory results. I have used it in the latter condition with apparent benefit, as well as by inhalation in pulmonary tuberculosis for its antiseptic effect, but my experience is too limited to give my endorsement. One of the chief obstacles to the successful treatment of this disease still remains, viz., the difficulty of applying antisepsis to the parts involved. We look forward to the day when the modern surgeon will invade the thoracic cavity, as he has the abdominal, and come to our rescue. Within my short professional career the abdominal cavity has been, if possible, even more dreaded, but it is not so now.

In the present state of our knowledge that treatment will be most successful in phthisis which endeavors to meet waste with repair.

### Diphtheria

continues to be the scourge of the land in spite of our rapid advances in knowledge. The opinion is commonly accepted that it is due to bacteria, and a special bacillus has been isolated by Loefler.

The germ theory of disease has revolutionized the treatment of diphtheria. Germicides are the remedies chiefly employed locally, and the number of these recommended are too great to be embodied in this paper. Mercuric bichloride has many enthusiastic adherents and many flattering reports of its success are given in the journals. Eucalyptus is lauded by many. Acetic acid is coming into prominence as a local application in this disease. It is claimed to be one of the best germicides yet discovered; verily, it seems that we are indebted to domestic medicine for many valuable remedies. Gallic acid is believed by some to be the most potent agent in the destruction of the microbes of diphtheria (Hoyer). It is claimed for this remedy:

1. Superior germicidal properties.
2. That it hinders their development.
3. That it prevents their entrance into the tissues by constringing the surface of the mucous membrane.

Sulphurous acid, boracic acid, and even powdered sugar have their adherents. All of which goes to prove that no entirely satisfactory germicide for local use in diphtheria has yet been found among the remedies for internal administration. The old remedies, iron, quinia and chlorate of potassa are still much in vogue; the corrosive chloride of mercury, in full doses oft repeated, is considered a specific by some. Sodium salacylate is highly praised by others.

The opinion that death from sudden heart failures in diphtheria is due to fatty degeneration of the heart has given place to the theory that it is due to the toxic effect of ptomaines, a condition of defective innervation in which sudden heart failure occurs from want of proper nerve stimulus. This theory will hardly explain all cases of death in diphtheria from sudden heart failure.

### Locomotor Ataxia.

I cannot refrain from making some mention of the suspension treatment of locomotor ataxia by Prof. Charcot. This disease has so long baffled the combined efforts of medical talent for its relief that we are eager to listen to a voice from any quarter, and especially to any suggestion from so distinguished a personage as Prof. Charcot. The apparatus used by him is the one employed by Prof. Sayre, of New York, for the application of plaster jackets in spinal deviation.

The time occupied in the first suspensions is about thirty seconds, to be increased as greater tolerance of the treatment is acquired.

It is claimed by Prof. Charcot for this treatment:

1. That it improves the coordination of muscular action, and that in consequence patients are improved in their gait.
2. Some relief is afforded to the lightning pains.
3. Some relief from vesical trouble.

This plan of treatment has been practiced upon forty patients, every other day, 800 suspensions in all being made.

Prof. Charcot feels confident of the benefi-

cial effect of this treatment, and it has been tried in the Berlin Clinic for nervous diseases, by Professors Eulenberg and Mendel in twenty cases, and the opinion of Prof. Charcot is confirmed by their experience.

We shall wait in breathless expectation for the further clinical test of this method, hoping, if we dare to hope, that success will crown the efforts of these illustrious clinicians and that this disease, so painful, so enduring, and that has wrought such wretchedness and misery to the human family has at last succumbed to the achievements of science.

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## COMPARATIVE TUBERCULOSIS FROM A SANITARY STANDPOINT.

BY PAUL PAQUIN, M. D., COLUMBIA.

Read before the Missouri State Medical Association, May 21, 1889.

MR. CHAIRMAN AND GENTLEMEN.—A nation that persistently ignores the natural laws governing health, that is indifferent regarding the conditions which underlie human welfare and happiness, is not great in the fullest sense of the word. Such a nation, whether under monarchial rule or under republican laws, whether she boasts of freedom, or blushes in abridged rights, none of her people can say truly, "Our government is for 'the greatest good to the greatest number," And what is it that underlies the welfare of mankind? Is it that wealth that sprinkles the land with palaces and attempts to beautify nature? Is it the knowledge and power that controls the masses and subjugates inferiors? Is it that condition of existence that affords priceless equipages and luxurious living? Is it possession of anything—of all things material that man insanely pursues in his mad chase on earth? No. None of these things, separately or collectively, can procure the happiness that human nature craves, and will always seek to the end of time. Health must first exist. Strength of body, physical endurance, must be if wordly happiness is to be. Even in the midst of opulence, more or less discomfort and misery is the lot of mortals. Health then is a legitimate question for the governments of all nations. Nay! It is the foundation upon which contentment rests, upon which the sinews of nations and the armies of the world must depend. And yet how many famous statesmen have ignored this point. How many famous legislators, even in this country that we call free have with a deliberate hand throttled legislation looking to the protection of health.

In this age of progress in all the walks of life, in this century which has seen medical science make such gigantic strides and establish positive prophylaxis concerning many decimating plagues, we have yet to combat statesmen whose master minds seem able enough to grasp all financial questions, but who, nevertheless, insult the mass of human creatures by scoffing uncharitably at their pleas for governmeutal protection against maladies and death. Even the government of governments, republic of republics, the great representation "of the people, for the people" presents frequent and recent examples of statesmen bordering on mockery relating to legislation against disease. It is the duty of all governments then to take seriously the question into account. And for us, for the Americans, who boast of being sovereigns, it is the duty of each and all to help, foster and advance all institutions which can truly and by legitimate means promote health.

The physician, however, is the acknowledged master in this most noble of pursuits. To him the world must look for the leadership. It is he who with the spirit of sacrifice and charity not surpassed in the physician of souls must carry the banner of deliverance in advance of the ranks. And this is one of the grand objects, I take it, of a scientific body of the character of the Missouri State Medical Association.

You will pardon me for these preliminaries to my subject. These thoughts pervaded my mind when, as a member of the Committee on State Medicine, I undertook, under the advice of my honorable colleagues, and chairman, Dr. Allen, the task of writing an article

on "Comparative Tuberculosis from a Sanitary Standpoint."

HISTORICAL.

The French physician, Villemin, about the year 1867, was the first to announce positively the contagiousness of tuberculosis. The veterinarian, Toussaint, afterward published the results of his cultivation of the virus of this disease, and announced successful inoculations made with such cultures. And finally to Robt. Koch, of Germany, belongs the honor of having discovered the actual virulent microbe of tuberculosis, and of isolating it in a state of purity. Since then experiments have multiplied in every country, and to-day it is a point beyond controversy that tuberculosis is contagious, and is due to a specific micro-organism, the bacillus of Koch.

ORIGIN.

The question of the origin in a given case of tuberculosis, or in the various outbreaks among the people is, from a sanitary standpoint the most important one to consider. Bacteriology has shown to us many heretofore doubted or unknown sources of this disease.

I will attempt to enumerate those of great moment and will perhaps be better understood in classifying them under two heads and consider them separately.

First, from human beings to human beings and to animals, by inhalation, by ingestion, by inoculation, by inheritance.

In the homes, in the schools, in the hospitals, in the railway and street coaches and cars, on boats, on the streets, everywhere, consumptives are found. The sputa coming from their lungs may be loaded with bacilli. It falls here and there, dries, and becomes a powder of fine character, or it mixes with fluids. The invisible vegetable germs are then either in the state of desiccation, which insures their vitality for an indefinite period; or in a state of moisture that does not rapidly affect their virulence in all cases. Thus, the carpets, cuspidores, floors of various edifices, the walks, the earth, etc., become the recipients of deadly microbes, which the broom, the shaking of the carpets, and various other things raise from their lurking places. They circulate, in and out, far and wide. They alight everywhere, in the water, the milk, the meat and bread, etc., and both man and beast are liable to become affected by inhalation, ingestion and even by inoculation. On the other hand, dejections from patients with intestinal tuberculosis adds numbers to the destructive parasites. Thus, with the exception of inheritance, all the means of transmission of tuberculosis, directly or indirectly, from man to man, and from man to animals may be accounted for.

It is known to every physician that tuberculosis frequently runs through entire families, with few or no exceptions. The contagion in families is, on account of close contact and communication, made more readily effective. In many such instances hereditary transmission should also be taken into account.

Without facts at hand one can easily conceive the possibility of congenital tuberculosis, but fortunately there are evidences of such occurrences.

In animals I have found on several occasions the lesions of tuberculosis in the uterus and the placenta, and I have observed also tuberculous mesenteric glands in the young in cases of abortion of consumptive milch cows.

Besides, there are so-called inherited predispositions or conditions of the young born from tuberculous parents, to which undoubted authorities have attributed much consumption. All these points in respect to the prophylaxis of tuberculosis have a decided bearing, and but few of them are sufficiently taken into account by either the medical profession or the people at large. For instance, the separation of the affected member of the family is seldom practiced. The relations of marriage remain unaltered. The marriage of tuberculous persons is considered lightly, although an individual known to be suffering from almost any other contagious disease, far less dangerous, could scarcely find a companion for life. Indeed, the grave question of heredo-tuberculosis is considered with almost

culpable indifference. The fact that children not only may be born bacillisible, but may be conceptionally infected is, in itself, of incalculable public moment. This is well appreciated by veterinary scientists and among advanced stock raisers. They take great pains to avoid tainted progenitors. It is well established in countries leading in scientific stock raising that tuberculosis is diminishing in stock, while it still progresses in man, in whom congenital infection is not considered.

Domestic animals, especially cattle and fowls and pet animals are subject to fall victims of tuberculosis directly from mankind, by eating sputa, etc. And then, they in turn may give the disease to man.

This brings us to the second heading:

From animals to animals and to human beings, by inhalation, by ingestion, by inoculation, by inheritance.

On the same principle that tuberculosis is transmitted directly or indirectly among the human race, so it is transmissible among lower animals of various species, and between species that are susceptible. The virulent matter thrown here and there from the nostrils of tuberculous cattle, for instance; the feces from cases of intestinal tuberculosis; the tuberculous meats eaten by fowls and carnivorous subjects all contribute to the spread of the disease. Consequently the bovine species, swine, fowls, rabbits, which furnish a great proportion of our food, and all of which are greatly susceptible, become so many sources of the origin of the dreadful plague among people.

[TO BE CONCLUDED.]

## SIGNIFICANT FIGURES.

In 1886 Dr. J. H. Rauch said there were from 1,500 to 2,000 physicians in the State of Illinois more than necessary to supply the legitimate demands for professional services, and who were not earning a comfortable livelihood from legitimate professional exertion. Between the years 1880 and 1886 1,060 physicians left the State after having registered for practice.

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## TO NON SUBSCRIBERS.

In this issue the REVIEW will make its bow to many who are probably little acquainted with its cheery face and enlightening columns. To these we would say, "Come with us and we will do you good!" With your cooperation we feel assured of being able to furnish a journal that will not cease to deserve the hearty support that has always been accorded us by our friends; nor fail to awaken the admiring surprise of those who are not so familiar with the work accomplished by it. A feature to which especial attention will be paid shortly is that of translations and abstracts from German and French medical literature, thus giving to our readers, concisely and yet freely, the results of the great amount of original work done by the investigators in these countries while yet it is fresh from their pens. The report of the proceedings of the recent meeting of the State Medical Association, which is begun in this number and will be continued in several others, giving fully and accurately the substance of the whole meeting—discussions as well as papers—may be taken as an index of the enterprise which shall ever characterize the course of the REVIEW.

We would invite your attention to the prospectus and subscription blank on advertising pages vii and viii.

## THE HOSPITAL QUESTION AGAIN.

In an article published in the *Bost. Med. and Surg. Jour.*, April 18, Dr. Bigelow, of Boston, expresses the opinion that no member of the medical staff of any public hospital should be allowed to charge fees for his services. To this the editors of the *Ther. Gaz.* take grave exceptions and term it "another step toward pauperization of the public and the impoverishment of the profession." The

*Gaz.* sums up Dr. Bigelow's argument as follows:

1. The hospital is a charity, its funds having been given for charitable purposes, and its board of managers giving their time and talents to its administration without recompense; the record of a charity should always be kept without spot, and as it is improper that a charity should be used for the aggrandizement, or for the pecuniary benefit of any one connected with it, the medical staff should not be allowed to charge for their services.

2. The hospital physician is already paid sufficiently for his services by the *eclat* which his hospital position gives him, by the experience which he acquires, and by various indirect recompenses which he receives, as is shown by the fact, to quote the words of Dr. Bigelow, "that these hospital offices would command a considerable premium in money from the best class of practitioners were they put up at auction."

Continuing the *Gaz.* says that though the hospital in its origin and in its general scope is a charity, it is not a charity to all the patients that receive its aid.

Now it seems to me that it is manifestly unjust to the profession to admit wealthy patients to a charity hospital on condition that they pay a portion of the just fees for medical or surgical attendance toward the maintenance of the institution. On the other hand, it is wrong to demand full fees of the patient and then ask for a handsome donation to the hospital.

To grant to a member of a medical staff the privelege of collecting fees from patients in free hospitals subjects the profession to the allegation that they board their private patients on the public charity fund. And further, it allows unscrupulous men to defeat the purpose of such institutions by requiring remuneration for medical services from the poor.

It has been truthfully said that some cases cannot be so successfully treated out of, as in a well appointed hospital. If it were not for this fact a solution to this much discussed problem would be simple—exclude all pay-patients from charity hospitals. But there are not enough "pay hospitals" to accommodate all of the cases referred to, and it would be unjust to the rich to deny them aids to recovery that are given to the poor.

The *Gaz.* recommends that in such hospital private rooms be set apart for the pay-patients and the attending physicians be allowed to charge for services to these, but not for services rendered in the public wards. This is virtually placing two institutions under one management, and I know of no reasonable objection that can be urged against it.

The practice of admitting to hospitals for free treatment patients who are amply able to pay and charging them twenty or thirty dollars a week for board cannot be too strongly condemned by the profession.

Dr. Bigelow belittles the profession of which he is a member when he says that the *eclat*, experience and various indirect benefits which the hospital staff-officer receives more than pay him for his sevices. We get *eclat*, experience and various indirect benefits from our private practice, and yet, I dare say Dr. Bigelow thinks it absurd for one to claim that we are not entitled to compensation outside of these. Several charities in New York City pay from five to eight hundred dollars a year to each of their chief surgeons and physicians for services rendered in the clinics. I am very sure that some physicians and surgeons give a great deal more to charity hospitals than they receive in return, and simple justice should prompt us to attribute this extra work to charity rather than to an ill advised attempt at self-aggrandizement.

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## Urticaria at the Menopause.

Dr. Manton, of Detroit, reports two cases, in the *Annals of Gynecology*, in which women nearing the climacteric period were attacked with general nettlerash. In a third case an unmarried woman was the subject of this troublesome neurosis, the attack coming on several months after the ovaries had been removed for disease. Dr. Manton says:

"Since Kaposi and other writers on skin disease, place urticaria under the reflex-neuroses—a result of some local irritation reflected through the sensory nerves to the skin —we must if we attempt to explain the cases which I have just noted, believe that some unknown and peculiar inritation of the pelvic or sacral plexus exists at the times when the skin eruption appears, but of the nature or cause of such an irritationwe can but confess ourselves in total ignorance."

It is well known that this peculiar eruption may owe its development to any one of a number of causes, such as the ingestion of certain articles of food or certain drugs. There is good reason for believing that in women who are predisposed to this affection it is more likely to occur at the menopause than at any other period of life.

Some years ago a case of this kind came under the writer's care. The patient seemed perfectly healthy.

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### Rupture of the Left Ventricle of the Heart. Death at the End of Five and a Half Days.

A remarkable case is reported in the *Brit. Med. Jour.* in which a man, 61 years of age, while walking, was seized with faintness and nausea accompanied by pain in the precordia. Suddenly he became insensible and fell. Fifteen minutes later he had regained consciousness but was deadly pale and extremely collapsed; pulse 38, irregular and remarkably feeble; skin bathed in a profuse cold perspiration. Heat was applied to the extremities and brandy given. The patient rallied slowly, and improved slightly till on the sixth day when he rapidly became exhausted and died. Post-mortem showed a vertical laceration of the wall of the left ventricle of the heart near its base. The opening was large enough to admit the passage of three fingers into the cavity of the ventricle.

Cases are on record in which recovery has followed wounds of the heart muscle, but the wounds were by no means so extensive as in the case given above. It is probable that in this case the rent in the ventricle was extended during the day on which death took place.

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### Abortive Treatment of Whitlow.

A Paris correspondent writes the *Jour. of the A. M. A.* that Dr. Gancher states that in the beginning of the formation of whitlow, if the skin over and around the inflamed part be slightly moistened and cauterized by rubbing a solid stick of nitrate of silver over it, the inflammatory process will be aborted. He also relates the history of cases of gout in which the great toe was swollen, painful to the touch, rather red, and was the seat of lancinating pains. Nitrate of silver was applied in the manner above described; in a quarter of an hour the pain had ceased.

This simple remedy should certainly be given a trial before proceeding to more formidable measures.

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### The License to Practice Medicine.

The editor of the *A. M. A. Jour.* advocates the appointment of State Boards of Medical Examiners, who shall have the power to issue license to practice to those only who are thoroughly qualified for such work. He says: "No State Board of Examiners, however appointed, will succeed in effectually protecting the people from the depredations of ignorance and imposition unless the law explicitly defines the minimum standard of general education necessary to qualify one to enter upon the study of medicine; and the minimum standard of medical acquirements, both theoretical and practical, necessaay for safely entering upon direct practice." He rightly says that the power of Boards should be purely executive, and in no sense legislative.

If competent men are appointed on these Boards, and a minimum standard is fixed by law, there will be no necessity for regulating the number of terms that the students shall attend lectures, or for fixing any standard of general education as a preliminary step to medical education. These may be left to the

medical schools. Some medical students are better qualified at the end of the second term of lectures than others would be at the end of the tenth. If such Boards were established in every state in the Union, I do not believe they would in any way interfere with any first-class medical college.

In the article referred to, the editor writes: We cannot agree with Prof. Osler and many others that the important department of materia medica and therapeutics might be either omitted from the examinations, or the applicant for license be permitted to choose which so-called system of therapeutics he will be examined in. On the contrary, every applicant should be examined and required to furnish evidence of having a fair knowledge of all systems. No student of regular medicine should be licensed to practice unless he also understands clearly the distinctive facts and principles of homeopathy, eclecticism and every other medical ism that he is to come in contact with among the people. And no student of any one of these pathys or isms should receive a license to practice unless he is also possessed of a good knowledge of regular therapeutics as practiced by more than nine-tenths of the medical men of Europe and America. How else can any young man or woman, proposing to enter upon the practice of medicine, possibly judge what remedies and what principles guiding their application, are best and most efficient in relieving human suffering, if they have studied less than half the field, and even that under strong partisan bias? If the State undertakes to secure for the people an educated medical profession, its laws should define clearly the standard of education required for all, and provide an efficient and impartial Board of Examiners to enforce it alike on all applicants. Then every person having passed the ordeal satisfactorily must be allowed to exercise the most perfect right of private or individual judgment in the application of his knowledge in the practice of any or all departments of medicine.

Many loyal homeopaths do not endorse the high potency theory, and as for the *similia similibus carantur*, what there is in it has been learned by accident or by experiment, just as the remedies used by the "regulars" have become renowned. There are thousands of remedies, each of which is good for something, but most physicians use less than fifty, and quite a goodly number not more than twenty. Any one practicing under the simple title of Doctor of Medicine has a right to use any and all medicines that in his judgment will be of benefit to his patients; it matters not if these remedies are used by homeopaths, eclectics or any other "school."

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## Syphilis and Smegma Bacilli.

So many questions are raised as to the relation of these two bacteria to one another that the following abstract (*Cent. f. Bacteriologie*, May 3, 1889) of a thesis by Lewy is likely to prove generally interesting. Preparations are stained with carbolic fuchsin (5 per cent aqueous solution of carbolic acid saturated with the best fuchsin) as if for the tubercle bacillus. The best differential characters of the two species are as follows:

*Lustgarten's Syphilis Bacillus.*

1. Occurs in syphilitic secretions as well as in the tissues of all three stages of syphilis.
2. Mostly on the epidemis, but occasionally free, rarely in conspicuous clusters.
3. Usually slender, straight or curved rods.
4. Decolorizes quite slowly in alcohol, after thorough staining with carbolic fuchsin.
5. Decolorizes in from 30 to 45 seconds, in acids.
6. Decolorizes almost instantly in glacial acetic acid.
7. Most abundant in new secretions.

*Alvarez and Tavel's Smegma Bacillus.*

1. In smegma of penis and clitoris, between the labia, etc.
2. Against or attached to the epithelium, often in large masses; also found free from the epithelium.
3. Smaller and plumper rods and more variable.
4. Quickly decolorized by alcohol.

5. Not decolorized by acids within two minutes or often longer.

6. Decolorized by glacial acetic acid only after being exposed to its action for 25 seconds.

7. Most abundant in a secretion accumulated for some time. W. T.

### Infection Through the Placenta.

Eberth (Fortschritte der Medicin, 1889, No. 5) has recently had occasion to make a bacteriological investigation of the aborted fetus of a woman attacked by typhoid fever in the fifth month of pregnancy. Microscopic examination and cultures showed the presence of a bacillus, not distinguishable (on the authority of both Eberth and Gaffky) from the typhoid germ in the blood of the heart and the juices of spleen and lungs, as well as directly in the placenta. The organs of the fetus, however, were not yet diseased. W. T.

### Conical Bullet Wound Passing Across the Skull from one Temple to the Other: Recovery.

Mr. Sydney Jones, of St. Thomas' Hospital, London (*Lancet*), reports an unusual case. A strong, somewhat plethoric looking man received a wound from a conical pistol bullet, which entered the head in the right temporal fossa, one inch behind the margin of the orbit, and half an inch above the zygomatic arch. Upon examination, the bullet was found embedded firmly in the right molar bone. In its course it must have severed the right optic nerve and the olfactory nerves, as vision in the right eye and the sense of smell was totally destroyed. The vision of the left eye was seriously impaired, the patient not being able to distinguish the fingers separately; both pupils were dilated and did not respond to light. The patient afterward regained fair vision in the left eye.

The course of the bullet was easily traced with a probe. A drainage tube was passed from one opening to the other and retained in position. The track of the bullet was cleansed with a 1—40 solution of carbolic acid and the wounds dressed antiseptically.

For some days the patient was restless from time to time and complained of intense frontal headache, which was controlled by the use of morphia.

### The A. M. A. Journal.

With commendable zeal the editors of this *Journal* have issued 75,000 extra copies to the medical profession. This copy contains a lengthy list of the titles of papers to be read at the coming meeting of the association. The *Journal* also contains a concise description of "Newport-by-the-Sea" and the neighboring places of interest, illustrated by near a dozen elegant plates. These extra copies which have been mailed to the physicians throughout the country are well calculated to arouse a more universal interest in the coming meeting which will be held June 25 to 28. The prospects are that the meeting will be larger than any ever yet held by the association.

The extra number of the *Journal* also contains a number of valuable contributions to medical literature and a brief review of the history of the Association. The editor says that among the many important and valuable results which the Association has labored to accomplish may be named:

First. By the early adoption of a Code of Ethics which commends itself to the approval of all medical men, it has clearly defined the rules that should govern, not only among members of the profession, one with another, but also their relations with the people.

Second. It has fostered fraternal fellowship, and helped to bring into close and friendly relation the medical men of all parts of this broad Union.

Third. It has always been the earnest advocate of a higher standard of medical education and in every way possible has sought to stimulate original investigation.

Fourth. Its influence has always been helpful to our medical colleges—and it has fav-

ored the maintenance of medical societies, both State and local, everywhere.

Fifth. For the purpose of assuring the closest possible relations with the masses of the profession—it even commits its own management to their delegates, as they shall come fresh from the local societies to express their will, from year to year, rather than to permanent members, who might in time misrepresent their constituencies.

The Association is in accord with the genius of American institutions. It is national in its representation, and never sectional in interests. It is in no sense exclusive, and yet makes ample provision, for those who by reason of talent and culture, may best serve the profession as instructors and guides. More than at any previous time it commends itself to the cordial support of the profession, and it is to be hoped that it will continue to command the services of the ablest men in the profession for the furtherance of the interests of Medicine in America.

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## The State Medical Society Meeting.

The Missouri State Medical Association of 1889, is a thing of the past—but its memory will long linger with the fortunate ones who were able to grasp the opportunity offered by it of partaking of the scientific feast presented, and of enjoying the manner in it which was served. Many of the papers read were certainly of a high order of excellence, and it is a gratifying thing to know that here in staid old Missouri we can make a good showing of original work, presented in a most attractive and entertaining form. The subjects, too, were not less happily chosen, and were mainly of a practical nature; there was little opportunity for oratorical, fanciful or theoretical flights, and the meeting was, indeed, a business meeting. Time was gained by grouping papers of a similar character and having the discussion on them to follow after the group had been disposed of. This and other plans were employed to conduct the work as expeditiously as possible, so that the whole program, which was arranged to fill three days, was finished in two, leaving the third for the excursion to Eureka Springs.

Not all of the two working-days was taken up in philosophical and scientific discourse either; the members were not slow to accept the numerous and kindly invitations so freely extended by the townsfolk, to spend the short intervals between sessions at their beautiful homes. And a disposition to mutiny against the unrelenting promptness with which the president called the meetings to order, became quite manifest, at times, amongst the widowers.

The contest for the presidency, though somewhat spirited at first, engendered no feeling between the two parties, and the choice, when determined, seemed to please everybody.

The Association is to be congratulated on the plan which it has adopted with reference to the determination of its recording secretary, practically making the position a permanent one for Dr. Mulhall, who has ably fulfilled its onerous duties for several years.

The sentiment universally expressed was, that of all of the successful meetings of the Association, none surpassed this in the scientific excellence of the work done, and the harmony and good will with which it was accomplished. Only one dispute arose—about the admission of a delegate from one of the county societies—and this was settled to the satisfaction of both sides, by a special committee.

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## The Excursion and Banquet.

Through the courtesy of the St. Louis & San Francisco, and Eureka Springs Railroads, a special train was placed at the disposal of the members of the Association, about 125 of whom, with their wives and lady friends, availed themselves of the opportunity to visit this well-known resort under such favorable circumstances. The departure was made at 7 A. M., on Thursday, and after a most pleasant and sociable trip, the train reached Eureka shortly before noon. Carriages were in waiting at the depot, and the ascent to the Cres-

cent Hotel was made without mishap. The greater part of the afternoon was spent, by the ladies, in drinking—Eureka water; by the gentlemen, in writing their extemporaneous banquet speeches. Supper was assiduously avoided. At 9 o'clock all assembled around the handsomely furnished banqueting tables, as guests of the Springfield Medical Society. From the extensive *menu* card, may be culled the following dainty Eureka rarebits:

Abnormal Lobsters.
Consultation Croquettes—Narcotic Punch.
Cundurango Ham.
Boiled Esculapian Mutton.
Boneless Capon, with Splints.
Anatomical Roast Beef.
Antipyrine Tongue.
Lettuce Salad. (Microbe Dressing.) Chicken Salad. (Regular.)
Strabismus Chips.
Strawberries, with Schirrus Ice Cream, etc., etc.

The feast of reason followed soon afterwards, introduced by Dr. Camp, the president of the Springfield Society. The ladies were charmed as much by his soothing and sympathetic voice, as by the thoughts to which it gave utterance. Dr. Wm. Porter was chosen to preside as toast master, and filled the chair with accustomed dignity and—completeness.

The first toast was, The Missouri State Medical Association of 1889. "The mill will not grind with the water that has past, but there may be flour in the bin for all that." Responded to by Dr. A. W. McAlester.

The Missouri State Medical Association of 1890. "A great work is before us; I do not say go, but come." Dr. L. I. Matthews.

The Physicians of the New Southwest. Dr. Camp.

The Physician. "Use these physicians: Dr. Quiet, Dr. Merryman and Dr. Diet." Dr. Allen.

The Doctor at Home. Responded to by "one who is a home man, but by no means homely; who never is so far away, but that he is still at home." Dr. A. B. Miller.

The Clergy. "I love a man, whom persuasion hath ripened into faith,and faith becomes a passionate intention." Rev. Mr. Fellows.

The Law. Responded to by, "Our host, Gen. Clayton, or as he is known, Governor Powell Clayton, or Governor General Powell Clayton." The speaker also took occasion to renew the welcome to those assembled. He was thanked by the toast master, who promised that the token of appreciation of such hospitality would be that "we would all come again."

The Ladies. "The world was sad, the garden was a wild, and man, the hermit, sighed till woman smiled." This was answered by the "fair and fragile Dr. Guhman, who, were he not a man, would be a lady himself."

A Man. (Naturally follows the ladies). "Before man made a citizen, Great Nature made us men." Dr. Lester Hall.

The Surgeon. "One who bleeds his countryman for his good. May he, in the language of Dr. Bill Nye, continue to take life easily" Dr. Pinckney French.

The Medical Pioneer. "He has staked out his claim, and has the papers for it." Dr. T. F. Rumbold.

Kansas City. In responding, Dr. H. C. Crowell distinguished himself by refraining from telling any real estate jokes.

State Medicine. Dr. Donelan.

The Medical Press. Dr. Bransford Lewis.

Eureka. Dr. Reese, President of the Carroll Co. Medical Society.

The banquet was a thoroughly enjoyable affair, and notwithstanding the length of several of the speeches, the full program was concluded on schedule time.

On Friday morning, 24th, the members met at the Opera House, and after the induction of the newly elected president and the passage of some resolutions, the Association adjourned *sine die*, starting for Springfield at 2 P. M.

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## Eureka Springs.

Every one is anxious to see much-talked-of Eureka; to have a personal demonstration of its wonderful springs, its rugged scenery, its

bracing atmosphere, its health-giving clime. Before going there, one is rather inclined to attribute much of the praise that is bestowed on the place as originating from interested parties, whose motives are more pecuniary than spontaneous and philanthropic. But in simple justice, it must be said, that if any disappointment is felt on becoming acquainted with it, it is certainly an agreeable one, and in favor of the Springs.

In the first place, the town is much larger than one expects to find it, the mountains are taller, the glens more attractive,—but the springs less impressive! That is, the water lacks that delightfully nauseating and disagreeable sulphur-odor and taste, that linger long after the folding-cup is pocketed and the fount is abandoned for a more congenial one. Nor has it the temperature of a geyser, that makes one feel all-boiling inside, and wish, when he has finished his quart or so, for just one good, square drink of well-water, to allay his—not parching, but boiling, thirst.

The water of Eureka is simply cool and clear, pure and sweet—almost delicious—spring water, that, in conseqnence of the small amount of solids it contains, possesses all of the absorbent properties of distilled water, without its objectionable taste. That it has any special medicinal power aside from this, is doubtful. And I believe that little else is claimed for it. It is probable that the beneficial effects derived from a sojourn at the springs depend more on the delightful surroundings, the charming views and attractive drives, which entice one into taking much out-door exercise, and lead him into climbing mountains and exploring valleys before he is aware of his indiscrete performances. The *quantity* of water, taken in all its purity, on such excursions, no doubt has much to do with the rapid gain in flesh, the buoyancy of spirits and the feeling of independence of all modes of transit, rapid or otherwise, which is experienced after a short stay in the locality.

All forms of amuse ment, recreation and occupation are attainable at Eureka; one may bask, in evening dress, on the hotel piazza ,or, in flannel shirt and corduroy, rusticate in the mountains; he may drive on the boulevard, or make a Stanley of himself and explore glens, trace streams to their source; fish or hunt.

There are many resorts of wider reputation, but located hundreds of miles away from us, which receive our patronage and yet offer far less inducements for a visit than does Eureka Springs. But Eureka has a great future before it; and we of its neighborhood should be proud of it!

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### Paracentesis Pericardii.

M. Cheran says that out of nine cases in which the pericardium was tapped for the removal of hemorrhage, five recovered. Out of fifteen cases of purulent pericarditis treated by incision, eleven died.

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We take pleasure in announcing to our readers that with the beginning of Vol. XX., in July, the Review will appear in a new dress of the best S. and C. book paper, and enlarged to the size of the *N. Y. Med. Jour.*, while at the same time the price will remain as it is. Who, then, will resist the temptation to subscribe for the best, as well as the cheapest, of the Western medical journa's?

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We hear that another weekly medical journal is about to enter the field in St. Louis. We bid it a hearty welcome, and would encourage it with the remark that there is always room for one more—not in this instance at the top, however; modesty forbids our saying who occupies that exalted position here.

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Vaccination is compulsory in England and optional in France. In the large cities of France the number of deaths from small-pox was 1,956, or .31 per 1,000 of the living population. In the large cities of England during the same period the number of deaths was 332, or .04 per 1,000.—*Sanitary News.*

## THE EXCURSION AS VIEWED FROM A YOUNG LADY'S STANDPOINT.

One hundred gay doctors came out from the West,
Of all the Association this party was the best;
Save their small pocket-cases, and lancets so keen,
Their weapons of warfare never were seen.
When side-tracked, some Meds. by mistake plucked some flowers,
Gallantly kissed them and then they were ours.

There was Maywin, Elder-blossom and dusky Miller too,
Fleur de Lewis, Moody-grain and Curran-ts not a few.
Our lunch baskets depleted, the cards grown *passe*,
The fetters unwound that bound some in play,
The next thing in order, introductions galore;
O! Gosh! Von Quash—first on the floor.

The presenting committee, consisting of one,
Gave others less pleasure than to himself fun.
He bore down full sailed, with saint or with sinner,
Softly whispering, "Go in, old man, you surely will win her!"
Some were Moody, some Crowell (cruel), some Rum-bold, some mild,
All equally anxious demure maids to beguile.

Twelve giddy creatures crowd into one hack,
Brass bands to the front, and brass bands to the back.
We drove up steep hills and through many a dell,
Ere we reached our destination, the Crescent Hotel.

The banquet, ye gods! was a feast for the eye,
If it did not gastronomical needs satisfy!
Champagne we had none, but of Porter—well, much;
Medicinal food and narcotic punch.
The lovers did fret and the coquettes did fume,
As the toasts lengthened out till near crack o' doom.

We were glad to learn, from a Teutonic physician,
To "lofe from sixteen and oop" was fair woman's mission.
The pride of our party, the "Pioneer" of the world,
Was followed by the youth, who "Medical Journalism" unfurled,
While the representative of the "Big Muddy" town
Said he derived inspiration from company coming down.

A wild morning tramp, a dinner delayed,
A crowd that was happy, but pretty well played;
A daughter adopted, several plans for life laid
By the giddy physicians and the wily old maids.

Then at the Ozark we lingered awhile,
The "sweet sorrow" of parting bereft us of smile.
Ever-sole with the trip was more than content.
And felt that his time had not been mis-spent.

## SOCIETY PROCEEDINGS.

### MISSOURI STATE MEDICAL ASSOCIATION, MAY 21st AND 22nd, 1889.

The President, Dr. A. W. McAlester, in the chair.

Report on "Progress of Medicine" by A. B. Miller, M. D., Kansas City, Mo. (See page 589.)

DISCUSSIONS.

Dr. J. D. Griffith, Kansas City, said: I can only speak of this subject of peritonitis from an operative stand-point. I am decidedly in favor of operative interference. Peritonitis is always from some septic origin. We know that the chances are nothing without the operation; it is not a question of whether the surgeon wants to do the operation or not, but it is his duty to do it. Only yesterday Dr. Perkins of Kansas City, operated on a case who had peritonitis and I haven't a doubt that if the patient had been allowed to go on twenty-four hours longer he would have died: whereas, he now has a chance to recover. I should prefer the saline treatment to that of opium. I was brought up, so to speak, on the opium treatment, but I have used the other and like it much better.

Dr. A. L. Fulton, Kansas City.—I wish to take exception to one point, that is with reference to the operation of opening the abdominal cavity in typhoid fever. We will find here many obstacles which change the case materially. There are pathological conditions present in typhoid fever, different from those in other diseases, bringing about an extreme reduction of the vital forces, even before a perforation occurs. We know further, that it would be useless to open the abdominal cavity, prior to the time when the

ulceration has produced a perforation, because we could not be able to find the part where the ulceration is about to take place. Even a simple opening of the cavity produces a wonderful amount of shock, aside from the shock incident to the perforation itself; and then if we should open the cavity, we find a ragged ulcer, which we must close; and we have a very unhealthy gut to commence with, and I don't think that the ulcers could be successfully united by sutures. You would therefore have to remove a large portion of the gut to get rid of the ulcer.

Dr. F. C. Yates.—In the treatment of typhoid fever I have used salines, in the shape of salicylate of potash, with very great benefit. All who have used it in summer diarrhea have found it one of the best things to destroy microbes.

Dr. Johnston.—Both from the tone of the paper and the remarks, it would seem that the use of opium is incompatible with the saline treatment. I would like to know if that is so.

Dr. Miller.—I think that the gentlemen have misunderstood me. I spoke against the practice of putting our *reliance* on the opium treatment. I did not wish to make the impression that the opium treatment should not be used in peritonitis. I simply said that we should not rely on it entirely.

Dr. N. B. Carson.—I fully agree with Dr. Miller. I have had the opportunity of seeing good results from the salines in peritonitis. I do not believe that there is such a thing as idiopathic peritonitis. In the case of typhoid fever with perforation, I cannot think that the operative plan will ever be very successful. In all these cases the condition of the patient is such that the operation of laparotomy will not be borne. I have seen quite a number of cases and have never yet seen one in which I thought the operation could be borne.

Dr. H. C. Dalton.—I wish to commend Dr. Miller's remarks, especially where he condemns the use of opium in peritonitis. It is in imitation of the ostrich, who sticks his head in the sand in the delusive hope of avoiding danger. In that way he suppresses the pain and then encourages himself into the belief that there is no traumatism inside the cavity. Only during the past month we had at the City Hospital a case in which there was discharge during menstruation from the tubes into the cavity. The patient began vomiting and there was intense and general peritonitis. She refused an operation and we gave her large doses of salts and she recovered. We also had another case of peritonitis, which pursued a very similar course. I believe in early operations if we do it at all. As to the suspension treatment of tabes we tried it in two cases, and in both cases the patients expressed themselves as being much relieved.

Dr. L. I. Matthews.—I am not prepared to wholly endorse the stands that have been taken. I have no doubt that the predominance of testimony regarding the use of salines in these cases is in favor of them, but that is in that class of cases, following operations for instance, but if it were from obstruction, impaction or puerperal peritonitis, I should rely on opium and not the salines. In such conditions there is a distention of the contents of the bowels, and if you use salines, you are increasing the distention, going right against the correct endeavors of nature. Besides, in many cases it would be impossible to give the salines, because the patient would not retain them. So far as the operation of laparotomy in typhoid perforation is concerned, I agree with the remarks of Dr. Fulton. I think it is not feasible nor practicable. The favorable results of treatment with salines has been spoken of, but there is not a physician here, of many year's experience, who has not had such patients recover under the opium treatment.

Dr. R. E. Young, Nevada. It has been the rule in medicine, from its earliest days to swing from one treatment to another. In my early days opium was regarded as the sheet-anchor. We are now at the other extreme and we have cathartics adv ised. It occurs to me that salines are contra-indicated in a great many cases of peritonitis and that the general

condition of rest is the best thing that can be attained; and again, I think it would not be practicable to withdraw sedatives from such patients. So I think the profession is not yet ready to abandon the opium treatment for the salines.

Dr. WARDER:—I have taken the advice of a wise business man, to the effect that when you see every one going up hill, turn around and go down. We seem to have abandoned the treatment of blood letting. That will give the same desirable results as salines, and it has been abandoned without good cause.

DR. PAUL PAQUIN, Columbia:—Some think that the new treatment is based on the fact of peritonitis being of septic origin. The fact of septicism of all kinds is generally admitted. We can certainly produce noxious conditions by inoculating the germs themselves so that the purpose of giving the salines is to eject all these noxious principles from the body, and it is a very proper one. If you exclude that which is poisonous, whether it be the germs or their products, you exclude the principles also. Blood-letting will not accomplish this. It is simply a depletant and does not exercise any germicidal effect.

DR. JOS. SHARP:—The change from one line of treatment to another simply indicates the change of our views as to the cause of disease. When we thought that it was because of some irritation of the cavity, we used the opium to allay that irritation; but now that we know it is of septic origin, we have changed to the saline treatment. One method by which the germs get through into the cavity has been shown by Lauder Brunton. Fermentation goes on within the bowel; its products are absorbed through the gut into the peritoneal cavity and then carried to a distance, there to produce their poisonous effects. As soon as the bowels are relieved the source of the poison is shut off and the effects of these poisons on the tissues are stopped, so that when we administer saline cathartics we should give them in full doses. If you do not succeed in this, the time has come for surgical interference. I do not agree that it is not proper to operate on a typhoid fever case with perforation. Had I the chance to-day, I should operate on some of my patients who now lie in their graves.

DR. MILLER:—In regard to the objections raised by Dr. Matthews, that in cases of peritonitis from intussusception, cathartics ought not to be used, it seems to me little reliance could be placed on opium or salines. In regard to the rest that opium gives, I know that this was the old theory, that of relieving pain, lessening shock and producing rest, but I don't think that this is the commonly accepted doctrine now. In peritonitis, the bowel is already paralyzed and at rest, and we don't need anything to put that bowel in a splint. All the cases which I have treated with the opium lie under the tomb to-day. I do not advise that we abandon opium entirely in these cases, but I simply advise that we abandon our reliance on the opium treatment.

"Antiseptic Medicine," by F. W. Schauffler, M. D., Kansas City. (See next issue.)

DR. PAUL PAQUIN:—Antiseptics are not exclusively advantageous in surgery, and I am glad to see Dr. Schauffler lay stress on that point. As regards the power of disinfection of the various substances mentioned, I have had better success with sulphur fumes than with the bichloride of mercury. There are old buildings with cracks and crannies which could not be disinfected easily, but if you keep on a sufficient length of time with sulphur fumes, repeatedly and for hours at a time, you will have good results.

DR. SHARP:—A great many have said that we cannot accomplish anything towards defeating the malicious designs of these microbes and yet our mothers and grandmothers have been controlling them in various ways from time immemorial. As for instance in baking bread and by boiling, we destroy that which spoils preserves. Manufacturers make use of them in making vinegar, and we can handle them just as well as all of these do and with just as much facility.

DR. THOMPSON:—Just before coming to the meeting I had the pleasure of reading a work

by Dr. Senn, and there the point was brought out that only one, or a very few bacteria, will not make a disease; whilst more of them, if injected into the subcutaneous tissues of the rabbit will cause direct results. And he declared that the greatest disinfector is dilution, and for that reason I believe that in the sick room the more air we can get into the room the better it is. I think it is better to wrap up the patient, open the windows, dilute the air and sweep out the organisms.

"Comparative Tuberculosis from a Sanitary Standpoint," by Paul Paquin, M.D., Columbia, Mo. (See page 593).

A. B. Miller.—It seems to me that we should not lose sight of the fact, in connection with the study of bacteriology, of the power of resistance that we have against the invasion by these organisms. Certainly we would all become infected, if we did not have some power of resistance, and we should all succumb. This is certainly one of the most important parts of the question.

Dr. R. S. Kelso, Joplin.—From many years of observation and study, I have been led to think that there is more in infection than there is in hereditary transmission of decreased or increased power of resistance from heredity.

Dr. Paquin.—As regards the power of resistance, there is of course such a power, naturally. We have white blood corpuscles whose duty it seems to be to destroy micro-organisms. There is also a power of resist ance on the part of the cell. That is the reason why we don't all succumb to consumption. But if you get a cold, immediately a proper nidus is established for their development, and they may grow and spread and cause the disease. It occurs in the intestines in the same way.

"Report on Progress of Ophthalmology," by W. C. Tyree, M.D., Kansas City.

To the expert ophthalmologist constantly on the alert for new thoughts and discoveries pertaining to the branch of medicine of his adoption, it must not be expected that this paper shall furnish anything which he has not seen or heard. On the other hand, I crave the assistance of my collaborators in bringing out a discussion of this subject, much that time will not allow me to mention, the most important of the recent advances in ophthalmology. Encouraged by increased success under antiseptic rules, operators have attempted to preserve the symmetry of the pupil and elevate the standard of restored vision, by leaving out iridectomy in cataract operations. In such operations safety certainly should be the chief consideration, compatible with useful vision. Experience and uniform success with the iridectomy method leads me to think it the safest operation. It is admitted by those who prefer the simple extraction that adhesions result more frequently than by the iridectomy method.

Knapp says, in the report of his first series, that iridectomy should be done in the following instances:

1. In case of fluidity of the vitreous and rupture of the suspensory ligament of the lens; the cataract does not present in the wound, but only vitreous escapes.

2. When the section is insufficient and the iris has been pushed forward in the attempt to expel the lens, vitrous is present or escapes.

3. When, during the operation, the iris has been bruised or injured.

4. When the sphincter is unyielding, more especially when a peripheric piece of the iris falling before the knife has been exsected.

5. When the iris, after expulsion of the lens and cleaning of the pupillary field, proves irreducible.

Two or three years ago the question as to the comparative value of enucleation and evisceration of the eye-ball was very generally discussed. Dr. J. L. Thompson concludes that sympathetic inflammation may follow ordinary inflammation of the eyeball; that abscision and evisceration are by no means reliable substitutes for enucleation in these cases, and that if an eye be wounded in the ciliary region, if irritable and threatening, the other one should be removed, even though it has an amount of vision left.

In an article on the subject of ophthalmology in 1876, Dr. Agnew says the principle on which this treatment rests is well established in various branches of surgery. There are many conditions in which spasms of the sphincter muscles maintain organic closure, and in which division or dilitation of the sphincter is a necessary preliminary to other treatments. The reader here related cases showing the value of this simple but efficient procedure, and remarked that it was probably because of the very insignificance of the operation that it was so frequently overlooked.

DISCUSSION.

DR. FRYOR, Kansas City.—I was glad to hear the reader refer to antiseptics in ophthalmology; but in opening the eyeball for extraction of a cataract, if we use an antiseptic solution strong enough to produce effects, we produce more or less irritation, even if it be a strength of not more than one to five thousand; if we don't use any larger per cent than that we do not destroy the germs. In regard to a solution of boric acid, I believe that many operators are using that now, in about three per cent strength, and we have in that quite a powerful antiseptic, and at the same time we do not produce inflammation. Several of the operators are injecting the anterior chamber before operating. One operator reports a case where he had used bichloride solution where it was a failure, and he thought that possibly it was due to the bichloride solution. In making an operation on the eye, where we use cocaine, it is important to test the cocaine first, to see if it will produce inflammation; if conjunctivitis supervenes on the cutting operation, it is apt to destroy the eye. I agree with the writer that evisceration is not an effectual substitute for enucleation.

"Remarks Upon Pruritic Rhinitis (Hay Fever), and a Synopsis of Its Treatment," by Thomas F. Rumbold, M.D., St. Louis.

I have suggested the name of "Pruritic Rhinitis" for the complaint commonly called "Hay Fever." In a paper read before the St. Louis Medical Society in 1860, I described the disease as a sequence of common nasal catarrh, and have referred to it in that connection in other contributions.

The treatment of this disease must be varied according to the stage in which it presents itself. In the first stage, where the symptoms are very slight, a few ten-grain doses of quinine and the usual local application of vaseline will relieve the patient after ten or fifteen treatments. In the second stage, where the symptoms are more pronounced, the treatment given in the first stage is applicable, also with the addition of local depletion, by means of a small, straight bistoury. Marked relief always follows this treatment, which may be repeated every other day, while the turbinated processes remain so much enlarged that they fill the nostrils. In the third stage, the most harrassing, the application of warm vaseline in the form of a spray is always followed by marked relief. This is also furthered by local depletion.

Many of these cases will require the removal of portions of the turbinated processes.

The fourth stage is so severe and includes so many objective and subjective symptoms that Dr. Wyman, of Boston, described it as a separate disease, calling it "autumnal catarrh," but close observation proves that all the symptoms of this stage are observed to some extent in the previous stages. In this stage the most marked symptom is the itching of the pharyngo-nasal mucous membrane. The sneezing is a most formidable symptom, and no sneeze is a complete one.

In making local applications great care should be taken to prevent the least irritation by the use of instruments or the application of medicaments. The face and neck, and sometimes the scalp, should be anointed well with vaseline. If the patient's feet are cold, they should be rubbed well with this ointment. A stream of hot vaseline and eucalyptol is then thrown over the naso pharyngeal and neighboring membranes.

Electricity is a valuable adjuvant, the negative pole applied to the lower end of the sternum and the positive pole to the seventh

cervical vertebra. The emunctory glands must be excited to activity. Quinine, tincture of aconite and local depletion are always useful.

The galvano-cautery is desirable when the growths are of such form as to preclude the application of the wire snare.

Dr. P. C. Yates, Neosho.—I don't wish to criticise the paper of the Doctor, but as a sufferer for thirty years, during special seasons, I wish to add a little experience with some simple remedies. I often find myself out of breath when I get in a cloud of dust, and in this condition I need something; so I swallow a pint of hot water as soon as possible. The relief is almost instantaneous. Another thing which the doctor has not mentioned is the fluid extract of grindelia. Little doses of fifteen drops won't give relief, but I swallow two and one-half drachms or more. It is a sheet-anchor. If a patient have asthma, let him carry it with him.

Dr. Fryor.—I would like to ask whether in this treatment, either during the time that he is treating the case or afterwards, if he has ever been able to do away with the tendency to the trouble, year after year. I have treated this trouble, and I believe sometimes that where I have introduced into the room of a patient at night some volatile antiseptic, like tincture of iodine, or a spray of weak solution of quinine and carbolic acid, I have been able to keep off the attack for some time.

Dr. Rumbold.—The remarks of Dr. Yates are very good and practical. I have heard patients speak of it, and they claimed to have obtained just as marked successes, as he claims, but in a hundred patients there would hardly be any two alike. It might make some sick at the stomach, and might help others. In answer to Dr. Fryor's question, I stated that it was occasioned by chronic nasal catarrh, and consequently a patient that is the victim of nasal catarrh should be treated for the catarrh, and by following it up a certain time you will get rid of the asthma. If it has been of longer standing, you will have to treat longer. With young persons in the first stage, I treat them for common chronic rhinitis.

[TO BE CONTINUED].

## PHILADELPHIA OBSTETRICAL SOCIETY.

Friday, May 3, 1889.

The president, Dr. Theophilus Parvin, in the chair.

Dr. B. C. Hirst: Laparotomy for Intestinal Obstruction.

The following case is reported, not because it is an especially rare and interesting one, but because it so clearly emphasizes the importance of early operative interference whenever indubitable symptoms of intestinal obstruction manifest themselves.

Mrs. F., æt. 46; seen in consultation with Drs. Prendergast and Ziegler; she has always been constipated; about five days before I saw her, she had taken a number of aperient pills, as she had not had a passage for some days before. The medicine was without effect in moving the bowels, but caused intense abdominal pain. Three days afterward stercoraceous vomiting began. The gentleman in charge of the case had injected large quantities of water into the bowels without result; no purgative medicine, however, had been administered. We finally agreed to try an injection of glycerine. This was followed by the evacuation of quite a large portion of well-formed feces. Hoping that we had at last overcome the obstruction, concentrated solution of salts was administered in small doses frequently repeated. This had had barely time to act when profuse fecal vomiting again appeared. An operation was then, of course, determined upon and performed late at night, with the valuable aid of Dr. Jos. Price's technical skill and good advice, assisted also by Drs. Prendergast and Ziegler. The small intestine was occluded by a mesenteric band so tightly that not a particle of feces could go through. The proximal portion was enormously distended and congested; the distal portion for a length of about eight inches was almost black in color, and looked already gangrenous. The band was easily divided. The distended gut was punctured, and a basin full of liquid feces evacuated. The opening was most carefully sewed up. The discolored portion of the gut

was watched for about twenty minutes, while the circulation gradually returned to it, and its appearance much improved. The abdominal wound was then closed and dressed. The whole operation, including the time consumed in watching the strangulated portion of intestine, lasted but thirty minutes. The woman's condition was fairly good afterward, but she soon began to sink, and died of exhaustion thirty-six hours later. The case was complicated by the worst nurse, in the person of a religious sister and relative of the patient, that I ever came in contact with.

Had the operation been undertaken as soon as stercoraceous vomiting appeared, in all probability the woman's life would have been saved. The delay, however, under the circumstances, was natural, and the belief that the obstruction had been overcome seemed justified. The lesson, I think, that this case should teuch—the lesson, at least, that it has taught me—is to open the abdomen as soon as stercoraceous vomiting occurs; the operation may occasionally prove unnecessary, but then little harm will have been done; more often it will rescue the individual from impending death.

Dr. H. A. Kelly.—I recently operated upon a similar case, *in extremis*. An old woman had had stercoraceous vomiting for many days, and was prostrated with a tympanitic abdomen, a very rapid pulse and a deeply furred brown tongue.

I found at the abdominal section that the small gut was contracted down into a small cord from the ileo-cecal valve eighteen inches up.

A prolonged, waiting, do-nothing policy in the hands of an ignorant practitioner had done the work.

If the operator is to give himself and the patient a chance, these cases must be seen early.

Dr. John B. Deaver.—I have seen a number of cases of obstruction of the bowel, and it is astonishing with what freedom physicians will administer aperients in these cases. Dr. Hirst speaks of giving concentrated solution of salts. I recently saw a case where the physician had given six drops of croton oil, and wondered why he did not get any movement of the bowels.

Treves, who has written the best article on this affection, plainly tells us that there are cases which call for large doses of opium from the commencement.

In regard to stercoraceous vomiting, I do not think that it is safe to wait for this symptom. We know that the most common form of intestinal obstruction, in the adult at least, is strangulation by a band. The next most frequent form is volvulus, and the most common seat of volvulus is at the sigmoid flexure. In these cases it is rather the exception to have stercoraceous vomiting until the patient is in *articulo mortis*. In the majority of cases where you have obstinate vomiting not allayed by simple measures, and with this constipation and the evidences of depression, these symptoms will warrant the surgeon in operative interference.

Dr. J. Price.—I am surprised to hear a surgeon say that there is even an indication for opium in bowel obstruction. I have seen a large number of these cases, but I have never seen an indication for opium save in a dying patient. It is just these large doses of opium which render the surgeon absolutely powerless. Scarcely a surgeon dares work after a large dose of opium has been given. He is called to see a patient where the physician suspects obstruction. He finds a comfortable patient with all the symptoms masked. It would be impossible to induce such a patient to submit to operation, the only thing that will save his life. Diagnosis should always be made, where possible, before administering an opiate.

The case reported by Dr. Hirst has many points of interest. It was unquestionably a chronic case of obstruction. The bowels were filled with feces and gas. It is in these cases where the patients are dying from fecal poisoning and shock, that we must minimize every detail in our operations. They cannot stand a prolonged operation and manipulation of vital vicera like the intestines. Nor will the condition of the viscera permit the intro-

duction of sutures. The suture tracts will become gangrenous. The operation must be performed as quickly as possible. Sometimes you can do nothing more than make an artificial anus with drainage of bowel contents. In this way you may save life and be able to perfect the cure at a later period. The methods of Senn, and one or two gentlemen in New York, by means of disk and ring methods for forming intestinal anastimoses, are valuable and rapid, and will no doubt contribute much to perfect intestinal surgery.

Dr. J. C. Da Costa.—With all due deference to want of success Dr. Price has had with opium, I may say that Mr. Treves is not entitled to the credit of this treatment. If the old editions of Gross' surgery are examined, it will be found that Prof. S. D. Gross recommends opium in intestinal obstruction, and states that a number of cases have recovered under it.

Dr. J. M. Baldy.—With all due respect to Dr. Gross and to Mr. Treves, I do not think that we need be proud of the treatment of intestinal obstruction by opium. We know that intestinal obstruction has a greater mortality than any other abdominal disease. The mortality is simply frightful. Treves mentions two thousand cases as occurring in England alone. The use of opium in intestinal obstruction tends to increase the distension and obstruction already existing; and if the degree of obstruction was such that it might have been relieved, it spoils the chance. In addition, no one can make a correct diagnosis with a patient stupified with opium.

I agree with Dr. Deaver that we ought not to give purgatives. If injections will not relieve the case quickly, we should not wait beyond obstinate vomiting, and stercoraceous vomiting should be absolutely the last symptom that we should wait for.

Dr. John B. Deaver.—With all due respect to Dr. Baldy and Dr. Price, I cannot agree with them. This is an important and practical point, especially important to the young practitioner. Opium is called for until the diagnosis is made. In all of these cases of intestinal obstruction, it is difficult to make the diagnosis. We know that the paroxysmal pain of intestinal obstruction is due to peristalsis. We know that opium is not the cause of the distension; this is due to the obstruction. Where we have active obstruction, any form except ileus paralytices, opium is of service. Whereas I am in favor of the administration of salines in ordinary abdominal surgery, I cannot think that they are called for until we have made up our mind whether or not we have intestinal obstruction.

Dr. J. Price.—I have a case which I think will demonstrate the mistake of Dr. Deaver. Day before yesterday my brother was asked to see a patient in whom he suspected intestinal oxstruction. He forbade absolutely the administration of opium for the relief of the paroxysms of pain, and gave large enemata. He obtained nothing more than a colic movement. In less than six hours fecal vomiting occurred, and three or four hours later he did a section for the relief of a strangulated bowel. The bowel was almost grangrenous at points. Salines were administered and four movements followed. The temperature is now normal. The pulse under 90. This was an ideal case, and demonstrates the importance of a clear diagnosis and early work before the patient is dying of fecal poisoning, collapse and peritonitis. It matters not who first used opium, the cases all died just the same.

Dr. Barton C. Hirst.—I agree with the criticism in regard to the administration of purgatives in these cases. We did not give the concentrated solution of salts until we thought that the obstruction had been relieved. It was given with the view of getting rid of the accumulated feces. If there had been any idea that obstruction still existed, it would not have been employed.

Charles Meigs Wilson.—Mary Matthews, a native of Ireland, 30 years of age, unmarried, pregnant with her first child, was admitted to the receiving ward of the Philadelphia Lying-in Charity, Dec. 29, 1888. At the time of her admission the membranes had ruptured, os uteri was dilatable, and the customary prodromic symptoms of commencing

labor were present. On the evening of the 30th of December active labor-pains commenced, and on the afternoon of December 31 she was delivered, after a normal labor, without instrumental aid, of a living child weighing six and one-half pounds. The placenta and membranes came away intact. There were, however, two slight abrasions, involving only the mucous membrane of the vulvar orifice, but no laceration of the perineal body. The abrasions were carefully dried after the labor was completed and touched with a ninety-five per cent solution of carbolic acid. The hair surrounding the vulvar orifice was carefully cut away. The case was one thought to be free from any likelihood of septic infection, There was present at the time of her delivery no septic case in the house—all the temperature of the other puerperal convalescents being under 100° F. The subsequent ascertained history of the case developed the fact that she had had a purulent gonorrhea discharge during the last five months of her gestation. Upon her admission to the hospital she was given the customary warm bath and a vaginal injection of a litre of a $^1/_{2000}$ corrosive sublimate solution. The vaginal injection was repeated when active labor-pains commenced. The usual rigid aseptic precautions were faithfully followed out by my resident, Dr. Francis Weidner, after her labor. She had no rise of temperature until the evening of the third day, when, without chill or chilly sensation, her temperature went up to $102^2/_5$° F. The uterus was at once curetted with negative result and irrigated with two litres of a $^1/_{2000}$ corrosive sublimate solution, and the patient placed under the influence of antipyrine. This treatment seemed to modify the temperature, which varied for the next seventy-two hours between 99° F. and 101° F., after which it vibrated between the normal point and 100° F. On the morning of the fourteenth day a small indurated mass was noticed by Dr. Weidner in the right inguinal fossa. Counter-irritants were applied and hot fomentations, and the patient placed under the influence of quinine and whiskey in large doses. The swelling increased in area day by day. On the morning of the seventeenth day of puerperal convalescence, the woman was suddenly seized with a violent chill lasting fiteen minutes, and followed in half-an-hour by a rise of temperature to 104° F. I saw her about an hour after the chill had occured. She had a worried, anxious look, was in a colliquitive sweat, and presented all the evidence of profound septic intoxication. With the assistance of my friend, Dr. Noble, who agreed with me, upon inspection of the case, that we had either a tube or an extra-peritoneal depot of pus which must be evacuated, I at once had the patient prepared and put upon the operating-table. Vaginal examination conjoined with abdominal palpation revealed extensive induration of the right iliac fossa, which was rightly judged to be an extra-peritoneal abscess. An incision midway on a line drawn from the anterior superior process of the right ilium and the umbilicus, one inch in length, was made until the peritoneum was reached. Careful palpation failing to reveal fluctuation through the exposed peritoneal surface, the wound was carefully closed, and an incision five inches in length was made into the abdominal cavity on the median line. The hand carried into the abdominal cavity through this incision at once revealed a thickened oviduct on the right side, adherent at its distal end to the abdominal peritoneum, and an immense collection of pus behind the abdominal peritoneum, to which the fimbriated end of the Fallopian tube was attached, and which seemed to be encapsulated in the sheath of the iliacus internus muscle. With the hand in the abdomen as a guide, the abscess was evacuated through an incision made just in front of the anterior and superior spine of the ilium, on the right side; about one litre of pus, with a distinctly fecal ordor was evacuated; the greatest care was taken to save the abdominal wound from contamination with the pus as it flowed from the abscess cavity. The abscess track was carefully irrigated with a $^1/_{1000}$ solution of corrosive sublimate and drained with a large glass drainage-tube. The ab-

dominal wound, after a careful inspection and toilet of the peritoneum, was closed without drainage. The wounds were dressed with the modified Keith's dressing. The patient made a protracted and slow convalescence, being discharged from the hospital March 6. She reported at the hospital again in three weeks' time, and so great had been her improvement, and so rapid her convalescence, that neither my colleague, Dr. Noble, nor myself recognized her. Undoubetdly she had had a septic metritis following her delivery, dependent, possibly, upon the presence of genorrheal pus in her vulvo-uterine canal, giving rise to septic salpingitis with adherent inflammation of the fimbriated end of the Fallopian tube on the right side to the abdominal peritoneum, and subsequent formation of a septic abscess in the sheath of the right iliacus internus muscle. Of the wisdom of the exploratory abdominal incision there can be no doubt, as it made the diagnosis definite and clear, and indicated the best method of opening the abscess. As was demonstrated by the subsequent steps of the operation, any attempt to open the abscess by incision through the abdominal wall, without the light given by the abdominal incision, would most likely have allowed the pus to escape into the abdominal cavity—a disaster which if discovered would have tenfold increased the danger to the patient, even if abdominal drainage had been resorted to, and which as, would most likely have been the case, undiscovered, would have led inevitably to the patient's death. To my mind, the case is full of instructive lessons. If in doubt as to whether a post-puerperal septic abscess be extra or intra-peritoneal, I think it the duty of the accoucheur to verify his doubt by the simple expedient of abdominal exploratory incision, which enables him definitely to decide, and which adds little or no measure of danger to his patient. If, also, a case presents the symptoms such as mine did, the physician may rest assured that pus is present, and instead of temporizing delay, he must realize that the safety of his patient depends on prompt recognition of her condition and the speedy evacuation of the pus.

[TO BE CONCLUDED.]

## SELECTIONS.

### THE DANGER OF SEPTIC INFECTION ARISING FROM NASAL AND AURAL DISCHARGES IN MIDWIFERY AND SURGICAL PRACTICE.

BY H. BENDELACK HEWETSON.

My attention has recently been very seriously drawn to the great danger which attends the parturient patients of those who are the subjects of even a slight otorrhea, or in whom there is some nasal discharge of an offensive nature.

Some time since I was consulted by a medical man for an affection of the left ear. He heard badly on that side, and suffered from great depression of spirits; he was pale and anxious-looking (though naturally he was bright, cheerful and energetic), and spoke despondingly of his future and his position. I found that there was a small perforation of the membrana tympani, and a thick semi-solid discharge lay on the floor of the meatus, but never appeared externally; but it was, when disturbed, horribly offensive. He told me that in order to find out the cause of his unexplained ill health, he had had all his drains overhauled, and also had had the drinking water looked to with negative results. I at once explained to him that the cesspool in his case was in his ear, and that probably in a short time a course of antiseptic treatment would neutralize the chronic absorption of the septic material, which was so exceedingly depressing to him, and cure his symptoms. I asked him if he was aware of the otorrhea, and he assured me that the deafness was the only thing which troubled him. I was exceedingly anxious to learn from him the results of his large midwifery practice, and with carefully weighed words I approached the subject. This ended in an exceedingly painful expression of feeling, which I need not dwell upon. Suffice it to say that his misfortunes in this department from puerperal septicemia were very constant, and also that many who recovered only did so after

passing evidently through an attack of septicema. It was at once evident to him that his ear trouble, which constantly caused irritation and consequent—often unconscious—scratching for relief, was the obvious cause of much of the puerperal trouble which he related to me. The treatment which we adopted very quickly set matters to rights, and I am glad to say that, though he was obliged to change his practice, he has done exceedingly well in midwifery practice ever since. His health also quickly returned.

The second case which I have to report in support of this subject occurred in the practice of a medical friend of mine, and it was the quoting of the above case in conversation to him which suddenly threw light on a case of puerperal fever, which ended fatally in his practice the week before. The facts are these: My friend had engaged a qualified assistant, and, being called away, the assistant was sent to an important midwifery engagement some distance off, and all went well until the end of the third day after delivery. Puerperal fever set in, with a rapidly fatal termination. I was asked to examine the assistant, and I found that he suffered from tertiary syphilis, disease of the nasal septum, with a most offensive discharge and foul breath. He was obviously a danger to any lying-in woman, and I advised that he should be completely rid of his trouble before he again played his part in general practice.

These cases point strongly also to the possibility of nurses suffering from aural or nasal discharges being the media of infection.—*The Lancet.*

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## A CASE OF PNEUMONIA WITH UNUSUAL SYMPTOMS.

BY S. F. BENNETT, M. D.

On February 17, 1889, I was called to Rita G., mulatto, aged 4 years. The previous history was one of good health. Three or four days before I saw her she had a very painful but transitory swelling of the left cheek, supposed to have been caused by exposure of that side of her face at a broken window.

I found the little patient in the first stage of a double pneumonia, with the extraordinary temperature of 107° F. The pulse was 184, and an occasional rolling of the head from side to side was noticeable. In the presence of such formidable initial symptoms, I felt that we had a hard battle to fight to save the patient, and so informed the family, which, by the way, was a very intelligent one of their class.

I ordered the bowels to be opened by calomel and rhubarb, and prescribed a combination of spts. of nitre, nitrate of potash, tartar emetic, and fluid extract jamborandi every three hours. On the second day a small amount of blood appeared in the sputa, and though the temperature never went below 104°, or the pulse 120 until convalescence set in, it did set in on the eighth day, resolution of the inflammation of the lungs having taken place. During these eight days the functions of bowels and kidneys were well performed, but the rolling of the head became more frequent, and all the time there was a slight tendency to stupor.

On the ninth and tenth days, to all appearance, convalescence was progressing favorably, the child calling for nourishment and taking it freely as was desirable. On my morning call of the eleventh day, I found the patient in a stupor, from which she could not be roused. This continued 72 hours continuously, except an hour morning from 7 to 8 o'clock, when she would rouse up, play with a pet puppy and her little sister, and seemed perfectly rational; but after each brief respite of this kind, she immediately sank into the comotose condition.

On inquiry of the mother on the first morning of this condition, I was informed that the child had not urinated for 24 hours. Examination revealed an empty bladder, and I diagnosed suppression, with uremic poisoning. This I combatted with diuretics, diaphoretics, cathartics, and what the laity call "corn sweats," *i. e.*, ears of corn were boiled, wrapped in cloths and placed about the pa-

tient, producing profuse perspiration. Three of these sweats were given on the three successive days of coma. After the last one, which was on the thirteenth day of the sickness, she became conscious, urination becoming free, and on the fourteenth and part of the fifteenth days she was perfectly rational, playing again and eating freely; but from the first day of her sickness until her death the rolling of the head was noticeable.

I again considered my patient to be on the road to convalescence. At 3 P.M. of the fifteenth day I found the child with a constant rolling of head; a cry with every breath, nearly like the syllable ah, much prolonged; eyes rolling; an expression of extreme terror on her face, as if she saw some frightful object, and a raving delirium. It took two persons to keep the coverings over her. The pulse and temperature, which for the previous 36 hours been at 90 and 101°, had risen to 150 and 104°, respectively. I prescribed potassium bromide and ergot, with ice to head for this condition, and watched.

The next morning, there being no improvement in the symptoms, I prescribed a 15-grain tablet of Sulfonal—Bayer, with orders to watch its effects, and if the patient quieted, or seemed likely to sleep, to let me know. This was at 2 P.M. Returning two hours later, I found the mother, who was worn out with watching and anxiety, had given another 15-grain tablet of the sulfonal within an hour of the first, and the little patient was sleeping as quietly as a babe. This made 30 grains of sulfonal, where I had ordered 15. The patient never awoke from that sleep. During the night of the sixteenth day the temperature increased to 106°; at 9 A.M. of the seventeenth day the pulse was 150, and the respirations 100. At 1:30 P.M. her induced sleep became the sleep of death.

Now, I wish to ask my professional brethren their opinion on this, to me, remarkable case. Was there a brain lesion from the first, as I had suspected because of the rolling head? What caused the final wild delirium and terror which developed so suddenly, after 36 hours of apparently approaching convalescence? Did the divided dose of sulfonal of 30 grains have any agency in the death? Can anyone report a similar case?—*N. A. Practitioner.*

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Differential Diagnosis of Tubercular Meningitis—1. From typhoid fever. This fever may suggest meningitis at the beginning by reason of the cephalalgia, vomiting and constipation which attend it. But meningitis is decidedly distinguished by strabismus, inequality of the pupils, alternate pallor and redness of the head, changes in the respiratory rhythm, and intermittency of the pulse. In typhoid fever, after the eighth day, the abdomen is distended and has lenticular spots upon it. In meningitis the belly is depressed and there are no spots on it.

2. From pneumonia. In both diseases there are at the beginning cephalalgia, nocturnal agitation, convulsions, or convulsive movements, prostration and vomiting. But within twenty-four hours, at the most, the respiration in pneumonia has become very rapid, there is a dull percussion-note upon the chest, and diminution of the respiratory murmur. The temperature rises rapidly to 39.2° to 39.4° C., and the pulse to 140 to 160. In meningitis none of these phenomena are observable, the temperature remains under 39°, and there is no fixed relation between the temperature and the pulse.

3. From eruptive fevers. At the beginning of these fevers there are phenomena of cerebral congestion which render the diagnosis very difficult. If, however, the case be scarlatina or measles, the angina connected with those diseases will reveal their nature, and enable one to make a diagnosis within twenty-four hours.

If there is no eruption or angina the diagnosis will be difficult. An abrupt beginning is not characteristic of meningitis. Within two or three days the peculiarities of pulse and temperature and the respiratory rhythm will show the nature of the disease. In meningitis the pulse is irregular, unequal and intermittent, and bears no fixed relation to the temperature. After eight days the peculiar

phenomena of meningitis are usually well developed.

4. From intermittent fevers. Pernicious intermittent fever is rarely seen in children.

5. From cerebral sclerosis. At the beginning of this disease there are cephalalgia, insomnia, vomiting and convulsive movements. These phenomena continue one or two days, and then the condition is apparantly normal again. Some months later they are repeated with greater persistency. The vomiting increases, being spontaneous, the tongue is saburral, and there is constipation.—*In. Arch. Ped.*

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Periodic Intermittent Albuminuria.—Dr. Merklen has placed on record three cases in which albuminuria appeared only in the daytime and was entirely absent while the patients were kept at rest in bed. Food, nervous excitement and exposure to cold were without influence. He concludes that the regular intermittence of albuminuria, the integrity of the general health, and the usually complete recovery are in favor of the view that this singular affection is simply functional, a sort of repeated renal congestion. This would be always induced by the erect station, or by muscular exercise, owing to an habitually atonic state of the circulatory system. In regard to the exact mechanism of albuminuria, it is supposable that the disturbed renal circulation modifies the glomerular epithelium in such a manner that temporary transudation of albumin is permitted. As soon as the renal circulation assumes its normal condition the vitality and impermeability of the epithelium are restored. Why the albuminuria should cease at about 6 P. M., before the hour of retiring, is by no means clear. The prognosis is good except that repeated functional disorder may pave the way for some organic kidney affection. This has, however, but rarely occurred. It is well to bear in mind that this intermittent albuminuria is carefully to be distiuguished from that of the early stages of interstitial nephritis. The latter should be easily distinguished by the concomitant symptoms, though they have been frequently confounded.—*Archives generales de Medecine.*

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Revaccination.—It has been asserted that receptivity for the vaccine virus diminishes in elderly people. The following table (Dujardin-Beaumetz in *Ther. Gaz.* for April 15, 1889) shows that while the results are extremely variable, owing to the method employed in vaccinnating and the kind of vaccine used, this diminution is quite doubtful. The cases are reported from the French Hopital des Invalides.

| Age. | Successes. | Revaccinations. Out of | Per cent. |
|---|---|---|---|
| 20-30 | 2 | 6 | 33 |
| 30-40 | 5 | 10 | 50 |
| 40 50 | 14 | 17 | 82 |
| 50-60 | 21 | 35 | 60 |
| 60-70 | 41 | 60 | 68 |
| 70-80 | 31 | 37 | 84 |
| 80-90 | 10 | 13 | 77 |
| 90-100 | 1 | 1 | 100 |
| Total, | 125 | 179 | 74 |

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The custom of wearing the pantaloons tightly at the top, and sustained by the hips, produced so much disease even among the hardy soldiers of the Russian army, that a law was enacted making the wearing of suspenders compulsory. If strong men suffer thus, how much greater must be the injury to frail, delicate women! The constant pressure and unnatural heat to which the lower part of the back is subjected, is one of the chief causes of the frequency of kidney diseases among women. Here is found the source of "weak back," lumbago, pain in the side, and several other diseases of the trunk which affect so many thousands of American women. —*Good Health.*

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The Samuel D. Gross Prize.—The first quinquennial prize of one thousand dollars, under the will of the late Samuel D. Gross, M. D., will be awarded in 1893. The conditions annexed by the testator are, that the prize "Shall be awarded every five years, to the

writer of the best original essay, not exceeding one hundred and fifty pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the successful competitor shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. The essays, which must be written in the English language, should be sent to Dr. J. Ewing Mears, 1429 Walnut Street, Philadelphia, before June 1st, 1893.

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Antipyrine in the Treatment of Hemorrhoidal Ulcers.—In the *Therapeutische Monatshefte* quoted in the *Centralblatt fur Chir.*, Dr. J. Schreiber gives an account of the case of a man, seventy-two years old, who had suffered for ten years with the most obstinate hemorrhoidal ulcers. By dusting the ulcers for twenty days with finely powdered antipyrine, Schreiber produced a perfect cure. Each application caused moderate pain lasting for about half a minute, but the effect of the drug on the pain and the continual itching of the ulcers was very favorable.—*N. Y. Med. Jour.*

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## BOOK REVIEWS.

Wood's Medical and Surgical Monographs. Vol. II, No. 1. April, 1889. Diabetes and its Connection with Heart Disease. By Jacques Mayer, M. D. Blenorrhea of the Sexual Organs and its Complications. By Dr. Ernest Finger.

Considering the fact that very little knowledge, which could be put to practical use, had been gained of late years through research and investigation with reference to the organs which experimental physiology had shown to be capable of producing diabetes, Dr. Jacques was impressed with the necessity of inquiring into any causal relation that might exist between diseased states of other organs of the body and this condition of glycosuria; and his attention was directed more particularly to the heart as a possible factor in its production, because of the frequency with which he noticed such symptoms as dyspnea, palpitation, pain and a feeling of oppression in the cardiac region, occurring in patients subject to diabetes. Therefore he determined to ascertain by personal examination the physical state of the heart in as many cases of diabetes as possible, and in all the stages of the disease, from the beginning to the end. This he has done, and his practice at Carlsbad has afforded him abundant opportunity for carrying out his purpose, because of the many sufferers from this affection which yearly flock to this locality for the benefit of the waters.

Working with this object in view during the last nine years (from 1879 to 1888), the author has kept careful records of 380 cases, which he analyzes in an instructive manner. The histories of some of them are given in detail in order to better illustrate the views of the author on the subject.

But the really valuable portion of this number is to be found in Finger's contribution, "Blenorrhea of the Sexual Organs," the original, from which this was translated, having appeared only last year. It is a scholarly and comprehensive work—indeed, a classic in its way—and well deserves the early translation which it received. It is thoroughly up to date; the very latest views concerning the etiology, pathology, complications and sequelæ are presented with all the clearness and precision of German writers. The author's interpretations of symptoms and signs show the stamp of originality and throw new light on many of the mooted points in this erratic disease. The advantages in the way of accurate and precise treatment, that one obtains from a study of his methods of diagnosing the presence or absence of posterior urethritis and of differentiating this from inflammation of the bladder mucous membrane, amply repay one for the little extra trouble it is to apply them. The directions for treatment are given with the same painstaking care and attention to detail that is noticeable throughout the book.

In fact, there is much to praise and little to criticise in this monograph; it will undoubtedly be numbered amongst the best of the series.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### COMPARATIVE TUBERCULOSIS FROM A SANITARY STANDPOINT.

BY PAUL PAQUIN, M. D., COLUMBIA.

Read before the Missouri State Medical Association, May 21, 1889.

[CONCLUDED FROM PAGE 595.]

TRANSMISSION FROM ANIMAL TO MAN.

We will consider the many possibilities of such transmission. This is, in fact, the chief object of this article.

Is tuberculosis in man and animals identical? Of late years the answer has been given many times to this oft-propounded question by various competent authorities in both Europe and America; and that answer is that tuberculosis in man, in cattle, swine, fowls, rabbits, etc., is one disease, and is due to the same microbe, the bacillus of Koch. It is true that no less an authority than Kohn has disputed it. It is true also that other diseases may be induced in rabbits that greatly resemble tuberculosis. But it is not less a fact that all those animal bodies, including men, are, to a variable degree, fit soils for the growth of the true germ of true tuberculosis. From the experiments made by myself, and since by my colleague, Jno. W. Connoway (an accurate worker in the field of pathology and for a year my assistant at the experimental laboratory at Columbia), I can state positively that the tuberculosis of man is, by inoculation and otherwise, transmissible to animals of the class that supply our meat and milk; and that the bacillus of Koch is the cause, greatly favored, however, by several weakened and pathological conditions of the susceptible organs and tissues. It behooves us, then, to inquire into the conditions of food from animals subject to tuberculosis. I will attempt a classification of such foods, in the order of their danger, beginning with the most dangerous. This classification can not be made dogmatically as yet, but it is based on the findings of the most reliable pathologists and bacteriologists:

First. Blood, raw, from cases of generalized tuberculosis.

Second. Milk, raw, from subjects with tuberculosis in mammary glands.

Third. Milk, raw, from animals having lesions in most of the viscera.

Fourth. Liver and kidneys, cooked from same class of subjects.

Fifth. Muscular and fat meats, not well done (cooked), from similar subjects.

Sixth. Butter, buttermilk and cheese derived from milch cows with tuberculosis.

All these sources of infection may, of course, vary greatly in degree of danger, and as we readily understand, produce the malady by one mode almost exclusively, that is ingestion. Thus we find ourselves not only surrounded by the danger of tuberculosis among our own species, but also by tuberculous virus coming from lower animals.

Many medical men adhere still to the belief that tuberculosis is nothing more than pulmonary consumption, so-called, and that the lungs are always the first organs involved. Some insist, indeed, that these organs are the only ones that become affected. This fatal notion has nothing for a basis except the erroneous and popular belief that the pathological condition conveniently termed cold, or some equivalent term, is about the sole cause of phthisis, and that coughing is the constant symptom attending it. It suffices, however, to feed cattle, swine, cats and fowls on tubercu-

lous meats, or foods containing sputa from tuberculous people awhile to determine the fallacy of this idea. In such instances the disease generally develops into, or in the neighborhood of the alimentary organs first and, as a rule, reaches the other organs, such as the kidneys, lungs, etc., later, by means of the lymphatics and blood circulation.

The Congress of Tuberculosis in Paris, July, 1888, has brought forward many observations tending to prove this assertion to be as true in man as in beasts. Vallin and Conheim have observed tuberculosis in a great number of children raised with dairy milk on the bottle, in which the intestines and mesentery were especially affected, and in which, frequently, the lungs were found to be free.

From innumerable accurate and reliable observations and experiments throughout the world, then, we find ourselves everywhere confronted with the awful, the overwhelming evidence that mankind may, and must, in the actual condition of things, contract tuberculosis from animals to a great extent. This preventible origin not only increases it in adults, but to a degree immeasurable causes a constant gradual augmentation of congenital cases, that will reach from generation to generation unless science and law comes to the rescue more effectively in the near future.

The milk of tuberculous cows, especially those having lesions in the mammary glands (a common thing in grave cases, by the way), has been found by Degive, Bouly and Nocard, of France, Bollinger in Germany, Bang in Sweden, Harsten in Belgium, Lydtin in Switzerland, Fleming in England, and a few American pathologists, to be capable of producing tuberculosis. I, myself, have found extensive tuberculous lesions in the mammary glands of milch cows; and I have known of some cases of tuberculosis induced by bacillized milk.

It is a common practice in some dairy establishments of the cities and towns to mix all the milk, from the various cows, and sell it from house to house. If one cow in one of these dairies has mammary tuberculosis, she may easily give, with her milk alone, millions of bacilli. If only one million, say, is mixed with the milk that is sold to feed one hundred persons, it makes a proportionment of ten thousand to each person of these invisible, deadly microbes. Now, calculate from this basis the appalling number of people that might be exposed from a given number of dairies in which tuberculous cows might exist! And this is only the milk—the very food consumed so extensively by the children and many of the adults.

Concerning meats. They are in most cases less dangerous than the milk, because the bacilli tuberculosis in the muscular tissues seem to be transitory. But still Nocard, Nosotti, Arloing and Chauveau have fully established the fact that muscular juice from a tuberculous beef frequently contains them in certain quantities. The experiments made by such men as these with beef juice have resulted in transmitting tuberculosis to animals. Mr. Connoway and I have at the laboratory experiments in the same line under way, which promise the same results.

Beef, from a subject in which tuberculosis was found either in the lungs, the liver, the spleen, intestines, mesentery, kidneys, pleura, or in a few of these organs may be cut up in pieces and offered for sale at the butcher's stand, and not even an expert would, in a moment, declare the meat to be dangerous. Such meat might contain in its tissues and in its vessels, especially lymphatics and ganglia, the bacilli of Koch and none could tell it at once. Ulceration of a tubercle on the surface of a blood vessel or a lymphatic, makes this occurrence readily appreciable.

At slaughter-houses it is a common practice to throw to the swine the viscera not utilized, including the too badly diseased portions of the subjects slaughtered. Thus hundreds of hogs are exposed to tuberculosis. These animals are, in their turn, slaughtered and sold for food, and their objectionable viscera are thrown to other animals of the same species. Fowls also, in some places, have access to such refuse, and they are afterward sold to the public for food.

Need I go any further to demonstrate to

this intelligent body the alarming condition of things which puts mankind at the mercy of ignorance, which frequently is, in some measure, guilty? I have a mass of testimony from experiments and observations from abroad and of my own in the field and laboratory that if perused carefully would convince even the most skeptical on the question at hand.

PROPHYLAXIS.

In America, the inspection of foods is so crude, generally speaking, that reliable statistics as to the per cent of cases of tuberculosis among food-producing animals are wanting. In Europe there are numerous reliable sources from which to obtain evidence. For instance, at Amsterdam (Holland) Abattoir, Dr. Van der Sluis, Inspector, found 312 cases of tuberculosis in cattle and hogs, during a continuous period of eight months. In France and England the inspection shows a somewhat smaller per cent. Now, note that these statistics come from Abattoirs, where stock inspection is constantly made by competent officers before the sale of meat. Every one understands that without the fear of inspection the number would be much greater. In Missouri tuberculosis is far from uncommon in live stock. I have noticed that disease in a number of milch cows, and have seen it in poultry. Small towns of, say, 4,000 inhabitants, could show you, with the help of qualified men, from half a dozen to a dozen or more tuberculous cows. And what is true of Missouri is also true of the United States,and perhaps of America as a whole.

Whatever may be the exact conditions regarding the dissemination of this disease, and of all the discussions pro and con concerning it, four things are known positively enough, and they should be considered—indeed, they must be considered if we would act wisely. First, that the tuberculosis of man and beast are identical. Second, that being identical and transmissible from man to animals, it can not but be transmissible from animals to man. Third, that there does exist, among milch cows, and among food producing animals of this country, the true form of the disease under study. Fourth, that we have, consequently, a widespread source of contamination among lower animals, and if we remain indifferent regarding these facts we fail to do our whole duty as physicians and as a body of scientists.

What is the remedy? If we cannot cure tuberculosis, we should at least attempt to prevent it as far as it is in our power, and experiment with a view of discovering a cure. With this in mind the duties of a practitioner become delicate and difficult, but he cannot uphold professional dignity and manhood and shirk them.

In my humble judgment, he should treat a patient with tuberculosis with the fact uppermost in his mind that it is a contagious disease; he should not feel above inquiring into the nature of the milk, meats and other foods the patient has been using, even if a personal inspection of animals is necessary; then he should prescribe according to the finding. (To this end, by the way, the study of comparative anatomy, physiology and pathology would be a valuable aquisition to even the most learned M.D.) The physician, in other words, is the man to instruct the people concerning the dangers of tuberculosis and other diseases, for that matter, which are transmissible from lower animals to man. On the part of the people, they should be informed that boiled milk is as good and as nutritive as raw, and that by being boiled it is disinfected. The experiments of Bang, Peuch and others prove that virulent milk heated to 70° centigrade transmits tuberculosis easily, both by ingestion and by inoculation; that milk heated to 80° centigrade transmits it too readily by inoculation; that infected milk, in a word, must be heated to 85° centigrade, a few minutes, to become free from live germs of the contagious consumption. We can readily understand this when we know that the virus of tuberculosis, sealed in glass tube and heated at a flame 20 minutes, at 60° centigrade, was found to be still inoculable; and that some other virus, heated ten minutes at 70° in a similar manner, was yet inoculable.

The people should be made aware that only

perfect and complete cooking of meats, through and through, relieves from danger meat that might contain the germs of consumption. A piece of meat in the form of a roast, cooked on a grate, at a temperature that does not cook the center perfectly, still remains virulent.

In conclusion, I will say that in the hands of Mr. Galtier, a French veterinarian and sanitarian of authority, the fact was established that salt meats of tuberculous animals was found virulent after some months; and that buttermilk and cheese, fresh and salted, and even cheese ten months old, produced tuberculosis by direct inoculation of the virus. Sooner or later we will see better sanitary laws concerning man. But a perfect system will come only when legislators do not feel themselves greater than their employers, and more competent to judge of necessary sanitation than scientific and practical men; and when the terrible and constant sacrifice of human life is better understood and have so excited the ire and just indignation of the people as to exact protection from the government. But, in the meantime, physicians should urgently plead for better sanitary ordinances in cities and towns. It is variously estimated that at the present time between one-fifth and one-sixth of the deaths in the world are due to tuberculosis (consumption). Some very serious and honest statisticians put it much higher even than that proportion. When and where shall this cursed decimination by one cursed plague be eliminated?

I can not help but feel some indignation at the unjust and ridiculous agitation made against so-called big-jaw in cattle, which, although inoculable and doubtless unwholesome and impure and improper for food, yet does not transmit itself perhaps to one person in five thousand—whilst to protect against the actual and multiplied dangers of daily occurrence to every family against tuberculous milk alone, scarcely a word is said. Occasionally a city ordinance is passed or amended to inspect the dairies and the milk; an honest but incompetent officer is appointed to see the cows occasionally, and a chemist, to see that the milk is not watered. Then the people think themselves quite safe. The position is a grave and almost criminal absurdity. Milch cows and milk so inspected, no matter how honest the officers, are absolutely as dangerous as before. None but competent and expert diagnosticians and pathologists can perform such duties safely.

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## ANTISEPTIC MEDICINE.

BY E. W. SCHAUFFLER, M. D., KANSAS CITY, MO.

Read before the Missouri State Medical Association, May, 1889.

We are all quite familiar with the term "antiseptic surgery," whereby is meant such use of antiseptics in surgical operations and dressings as shall prevent sepsis and suppuration, and shall result in the safe and speedy healing of wounds, without the admission into the system, or the development within the system of anything calculated to poison the individual operated upon. The triumphs of antiseptic surgery have been sung in every civilized land and tongue, nor is it possible to swell too loud the peans of its praise.

By strict adherence to its rules, miracles of healing are wrought to-day as marvelous as those of mythology; or, better, those of Holy Writ.

The question which I wish to bring before this society is, whether the surgeons are entitled to a monopoly in antiseptic practices, or whether those who practice medicine alone, as opposed to surgery, have any practical interest in the doctrine of antisepsis.

This doctrine, so far as it applies to surgery, according to my understanding of it, is as follows. The atmosphere in which we live is loaded with pathogenic micro-organisms. They are in the air, in the dust that settles everywhere; therefore on the skin of the person to be operated on, on the hands and the instruments of the operator, in the water and the dressings to be used. Whereas, these micro-organisms ordinarily do not enter the human body through a sound skin, they do thus enter it through a wound, and in the

course of their life and reproduction within the body, they produce organic poisons which are liable to kill the individual by what is called septicemia. For this reason the surgeon disinfects his patient's skin, his own hands and arms, his instruments, and everything that may come in contact with the wound or wherewith it is subsequently dressed, thus reducing to a minimum the chances of infection through the wound.

In the practice of medicine we have to do with many diseases which are caused by the presence of microbes in the body. The number of different microbes (bacilli and micrococci) which have been proven to be the cause of different diseases is constantly increasing.

Among the surgical diseases which have been positively proved to be caused by microbic invasion are, anthrax, erysipelas, gonorrhea and all pus formations.

Among the medical diseases positively proved to be caused in the same manner are, Asiatic cholera, sporadic cholera, tuberculosis and typhoid fever. Among those diseases the microbic origin of which has been strongly claimed by excellent authorities, but is not yet generally admitted as being proven are, pneumonia, diphtheria, epidemic dysentery, tetanus, malarial fevers, and some of the eruptive fevers, as small pox and scarlatina.

All forms of septicemia are believed to be due to the action of pathogenic microbes.

It would be interesting, if we had the time, to study together the life-history of some of these micro-organisms, which play such dire havoc with human life, influencing the history of the world far more than does any other animal excepting man. The story of their discovery, of their cultivation, of the experiments made with them by the enthusiastic bacteriologists of Europe and of this country reads, sometimes, like a fairy tale. But, with all this we cannot occupy ourselves at present. Accepting the established facts, our duty is to turn earnestly to the question: "Is there any way in which we can limit the spread of those diseases which are either certainly or probably disseminated by a living contagion?"

In the case of certain epidemics which are liable to visit our shores, such as cholera and yellow fever, the state takes the matter in hand, isolates the sick, disinfects clothing, vessels, etc.; and, as a rule, arrests the spread of the disease. But in typhoid fever, tuberculosis and diphtheria, which are always in our midst, no such state interference is practicable (though much might and ought, nevertheless, to be done by state and local health authorities), and any steps that are taken to prevent the unhindered spread of these maladies must be initiated by you and me.

Since typhoid fever is always communicated by the introduction into the system of the typhoid bacillus, and since this bacillus escapes from the body of the typhoid fever patient in immense numbers in the dejections from the bowels, it behooves us to kill these bacilli in the stools before they are thrown out or emptied into a sewer or cesspool. For the same reason all clothing, bed clothes, or other articles soiled by such excreta should be removed as soon as possible and so treated as to kill the bacilli which clings to them. The methods of doing this will be discussed presently.

Inasmuch as all tuberculosis is due to the entrance into the body of tubercle bacilli, and inasmuch as the sputa of the phthisical patient swarms with these bacilli, and they are often contained in the saliva, the nasal mucus and the stools of such patients, it behooves us to disinfect all such discharges and all articles that have been contaminated by them.

The same rule holds good with regard to diphtheria, the contagiousness of which, and the need of disinfection with regard to which are generally admitted, although the specific microbe of this disease has not been so satisfactorily demonstrated.

General, as well as medical, public opinion also concedes the necessity for disinfection after small pox, scarlet fever and other strictly contagious diseases.

Has it then come to this, you will, perhaps, ask, that antiseptic medicine merely means disinfection? Precisely this, and nothing more. Nor is this so lame and impotent a conclusion as might at first appear.

What is antiseptic surgery, whose praises we were but just singing more than just simply disinfection? The surgeon fearing that he will introduce into his wounds mischievous microbes which may cling to his hands, his instruments, etc., disinfects those hands and instruments by immersing them in a solution of some substance that will kill those microbes and their spores or eggs. By this means he secures a non-infected wound. This, together with subsequent care in still keeping out microbes and spores is all there is to antiseptic surgery; but it is a great deal—it is everything!

We, dealing with typhoid fever or tuberculosis, cannot, alas! destroy the microbes that are, perhaps, destroying our patient, but we can, and we should prevent that patient from becoming a source of infection to others. This can easily be done without isolating the patient or subjecting him to any serious inconvenience.

I say that we cannot, by internal medication, destroy the bacilli of tuberculosis, for instance, and thus cure our patients. In saying this I by no means ignore the attempts that are being made in this line by the administration of the salts of mercury, the iodine salts, creosote and other antiseptic remedies. I believe that in this direction lies the great hope of medicine for the future. When we shall have succeeded in fully accomplishing this object we shall, indeed, be practicing antiseptic medicine. As yet, the experiments in this direction are merely experiments, however valuable, and I, therefore, confine myself in the brief time here allotted me to the question of preventing the spread of microbic diseases.

One exceptional disorder may, however, be mentioned where, the infection being at first local and afterward general, and the local point being often within reach, we may use local disinfection on the patient. I refer to diphtheria, the pathology and treatment of which will be the subject of a separate paper to be read before you; a disease in which, I presume, we all agree on the value of local disinfection, just as we do in the case of wounds, whether strictly surgical, obstetrical or otherwise.

Before proceeding to the consideration of the use of the various disinfecting agents, it may be well to answer the question: What is the difference between an antiseptic and a disinfectant?

An antiseptic is an agent which, used in a given strength, will prevent putrefactive decomposition in animal tissues; or, which added to a culture-medium suitable for the growth and multiplication of certain microbes will prevent the growth and multiplication of such microbes when they are introduced into such culture-medium.

Observe that nothing is said in this definition about killing these microbes, nor is this at all essential in order to maintain the character of the agent as an antiseptic. Mercuric chloride, $^1/_{30000}$, according to Steinberg, prevents the development of most of the test organisms used by bacteriologists, and yet it takes $^1/_{2000}$ to kill these organisms, and $^1/_{500}$ to kill their spores. The same pathogenic microbes, as anthrax bacilli or tubercle bacilli, whose development is arrested by an antiseptic solution, will again manifest their former activity and multiply when the strength of the solution is reduced below a certain point. Not so when a disinfectant is used, because the latter kills the germs. It may be identically the same agent that was used as an antiseptic, but it is not used in the same strength, for to make it a disinfectant it must be strong enough to kill the microbes.

The Committee on Disinfectants of the American Public Health Association, to whose admirable reports, completed and printed last year, I am indebted for the statistical portions of this paper, give the following very general and guarded definition of disinfectants, viz.: That they are "those agents which are capable of destroying the infecting power of infectious material." Virtually explaining and modifying this definition, however, we find the following language of the committee on page 236 of their report: "It has been proved for several kinds of infectious material that its specific infecting power is due to the pres-

ence of living micro-organisms, known in a general way as 'disease-germs,' and practical sanitation is now based upon the belief that the infecting agents in all kinds of infectious material are of this nature. Disinfection, therefore, consists essentially in the destruction of disease-germs.

"While an antiseptic agent is not necessarily a disinfectant, all disinfectants are antiseptics; for putrefactive decomposition is due to the development of germs of the same class as that to which disease-germs belong, and the agents which destroy the latter also destroy the bacteria of putrefaction when brought in contact with them in sufficient quantity, or restrain their development when present in smaller amounts. A great many of the proprietary 'disinfectants,' so-called, which are in the market, are merely deodorizers or antiseptics, of greater or less value, and are entirely untrustworthy for disinfecting purposes."

The closing sentence of the preliminary report of this Committee on Disinfectants is well worthy of quotation here, inasmuch as it says in a few well-chosen words all that I am trying to say in this entire paper. It reads as follows:

"In the sick room we have disease-germs at an advantage, for we know where to find them as well as how to kill them. Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick room."

It may not be out of the way, before calling attention to the very simple rules for disinfection recommended by the Committee of the American Public Health Association, and placed before you on the wall, to give the results of their enperiments on the efficacy of certain commercial disinfectants put upon the market.

The test to which they were subjected was their power to destroy disease-germs exposed to their influence for two hours:

| | Active when used in the strength of per cent. | Failed in the strength of per cent. |
|---|---|---|
| Little's soluble phenyle, Brooklyn... | 2 | 1 |
| Dr. Martin's "disinfectant, No. 1," (contains mercuric chloride)..... | 2 | 1 |
| Thymo-cresol, English..... | 2 | 1 |
| "Pasteur's marvellous disinfectant," Blackman Disinfecting Co., N.Y. (mercuric chloride)..... | 4 | 2 |
| Wither's antizymotic solution, (mercuric chloride)..... | 4 | 2 |
| Labarraque's solution, (liquor sodæ chlorinatæ..... ..... | 7 | 5 |
| Liquor zinci chloride, (Squibb)..... | 10 | 7 |
| Phenol sodique, (Hance Bros. & White) ..... ..... | 15 | 10 |
| Platt's chlorides..... | 20 | 15 |
| Bromo-chloralum..... | 25 | 20 |
| Listerine, (Lambert & Co.)..... | — | 50 |
| Phenoline, (Hance Bros. & White)..... | — | 50 |
| King's disinfectant, N. Y..... | — | 50 |
| Smith's odorless disinfectant..... | — | 50 |
| Chloridium ..... | — | 50 |

Another fact worthy of note is that the fumes of such disinfectants as are more or less volatile or odoriferous, possess, practically, no disinfectant qualities. Many physicians encourage the idea that to have chloride of lime set around in plates, or clothes wrung out of a carbolic acid solution hung up in the room, disinfects the air of that room. This is an utter fallacy, and the harm it does lies in the fact of its leading to a false sense of security and to the neglect of precautions which are of value. As a rule, it is not the air which we want to disinfect, but everything that comes out of the mouth and nose and anus of the patient.

Another popular error is that which attributes great germicidal properties to cold. Bacteria are very much like other vipers—they can bear an immense amount of freezing and yet come to life again and bite when they are warmed. In some experiments conducted by Dr. T. M. Prudden, of New York (*N. Y. Med. Rec.*, March 26 and April 2, 1887), it appears that the staphylococcus pyogenes aureus was not destroyed by exposure to a freezing temperature for 66 days, a fluorescent bacillus from Hudson river ice survived for 77 days, and the bacillus of typhoid fever survived after 103 days.

It is true that the number was greatly diminished, but there were still 7,348 typhoid

bacilli in a c.c. of water after it had remained frozen solid for 103 days. This is quite suggestive of the importance of securing a pure source of supply for the ice used in drinking water.

Looking now at these tables, hung upon the wall, which are taken from a circular issued by the American Public Health Association, based upon the investigations of its committee, composed of some of the best bacteriologists and sanitarians in the land, you see how few are the agents and the processes requisite for absolute disinfection.

For the destruction of spore-containing infectious material:

1. Fire, complete destruction.
2. Steam under pressure (221° Fahr.) for ten minutes.
3. Boiling in water for half an hour.
4. Chloride of lime (should contain at least 25 per cent of available chlorine); a 4 per cent solution.
5. Mercuric chloride; solution of 1 in 500.

For infectious material containing micro-organisms without spores:

1. Fire; complete destruction.
2. Boiling in water for ten minutes.
3. Dry heat (230° Fahr.) for two hours.
4. Chloride of lime; 2 per cent solution.
5. Solution of chlorinated soda (should contain at least 3 per cent of available chlorine); a 10 per cent solution.
6. Mercuric chloride; solution of 1 in 2000.
7. Carbolic acid; 5 per cent solution.
8. Sulphate of copper; 5 per cent solution.
9. Chloride of zinc; 10 per cent solution.
10. Sulphur dioxide (fumes of burning sulphur); exposure for 12 hours to an atmosphere containing at least 4 volumes per cent of this gas in the presence of moisture. Burn between 3 and 4 pounds of sulphur for every 1000 feet of air space.

The practical application of the articles and methods enumerated in these tables, according to whether the disinfection is to take place in the sick room or the privy vault, whether it involves the disinfection of clothing which can be boiled, or of the floors and walls of rooms which must be fumigated or washed, will be evident enough to any thinking man.

It should, perhaps, be stated, however, that the high value of chloride of lime and chlorinated solutions, as claimed by the committee above named, has been challenged by some excellent authorities, whereas no one challenges the value of mercuric chloride and carbolic acid.

Thus very superficially have I outlined before you, gentlemen, the necessity for disinfection in the practice of medicine and the cheap and simple methods by which it may be accomplished. Of its importance I need say no more.

In the sanguinary days of yore, when the only hero was the hero of battle, Hebrew maid and matron sang one day as their warriors returned from the conflict, "Saul has slain his thousands and David his ten thousands." So I believe, if we do our duty shall the historic muse of the future chant that antiseptic surgery has saved her thousands and medicine her ten thousands.

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## VILLOUS TUMOR OF THE RECTUM.

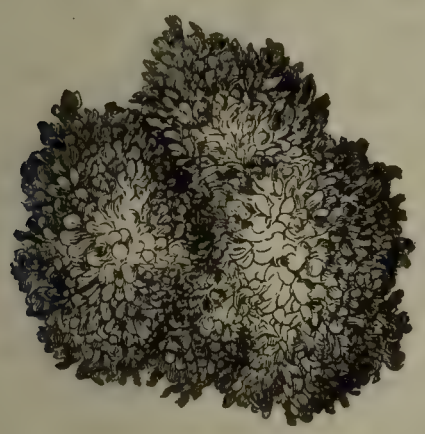
BY GEORGE J. COOK, M.D., INDIANAPOLIS,

President of the Mississippi Valley Medical Association. Consulting Surgeon for Diseases of the Rectum to the Indianapolis City Hospital and Indianapolis City Dispensary, Etc.

On December 28, 1887, Dr. Cline of this city called me to see Mrs. S., æt. 40, formerly robust and healthy, the mother of several children, and still menstruating. About five years previous she began to have, at times, some pain in the rectum and sacral region, dull and aching in character, and noticed occasionally a free discharge of mucus. These symptoms of rectal disease gradually increased until the pain became almost constant during the day-time, when she was up attending to her household duties, and the discharge of mucus of daily occurrence. During the previous six months she had been losing flesh and strength rapidly, and now was confined to her bed most of the time on account of

general weakness, and the distress in the rectum when in the upright position.

For two months past a tumor would present at the anus while straining at school, but never entirely prolapsed, and occasionally some blood was lost. There was one natural passage from the bowels daily, but several times a day a large quantity of thin mucus would pass, sometimes a half-pint or more at once. Her appetite was poor, could take but little food, and her skin was pale and waxy in appearance. Her history and appearance suggested some form of malignant disease.



On digital examination I recognized a tumor resting in the rectal pouch,well above the internal sphincter muscle. It was different from anything I had ever before felt in the rectum; so slippery that it was with difficulty held beneath the finger for examination, of a spongy consistence, with no induration, and firmly attached to the posterior rectal wall.

When the patient was placed under an anesthetic and the sphincters dilated the tumor was easily drawn outside; it was the size of a large hen's egg, of a bright arterial color, had no pedicle, but grew from the gut wall by a broad base. A fold of mucous membrane was dragged down to allow it to come outside the anus. There was some thickening of the fibrous tissue at the base, and from this sprang long villous processes, which composed the bulk of the tumor. Each one of these increased in size from the base towards the free extremity, giving the ends a clubbed appearance.

The outline of the tumor was very distinct. There was no surrounding zone of congested or inflamed membrane, but the healthy tissue came up to the outer row of villi. The contrast in color was marked; the surrounding membrane was pale, owing to the great debility of the patient, and the tumor was of a bright arterial hue.

It was removed by passing a double ligature through the fold of mucous membrane above it, tying, and then cutting off with knife. The ligature came off after a few days and the patient made a rapid recovery, soon becoming strong and more fleshy than ever before in her life.

I quote the following from the chapter on "Villous Tumor of the Rectum" in the last edition of "Allingham on Diseases of the Rectum," issued last year:

"This is a rare but interesting disease. Mr. Quain, in his work, gives the details of only two cases that had fallen under his observation. I have now seen eighteen examples of this growth—eleven in my own practice,three in St. Mark's Hospital under the care of my late colleague, Mr. Gowlland, one in the practice of my colleague, Mr. Alfred Cooper, and three under Mr. Goodsall's care; added to these I only find reported two by Mr. Symes, one each by Messrs. Cripps, Gosselin, Van Buren and Bryant, twenty-four in all."

It is indeed a rare surgical disease of which only twenty-four examples can be found recorded in surgical literature, this case making the twenty-fifth.

Some of these tumors are described as having distinct true pedicles, others broad pedicles composed of a fold of mucous membrane, dragged down by the tumor; and others again, like this one, attached to the rectal wall by a broad base. Those having a true pedicle seem to be composed mostly of fibrous tissue, with the surface covered with villous processes, while those attached by a broad base are formed almost entirely by the elongated processes, thus differing in structure according to the varying proportion of the different elements. Hence we find the authors differing in their descriptions—one says they have a soft, velvety, villous feel, and a want of the

solidity and firmness which is felt in large polypi; another says they have the feel of a large warty polypus, with cauliflower surface; and still another says they have the feel of a huge warty growth.

This tumor has been found only in adults, and the majority of the patients have been over 50 years of age. The prominent symptom is the discharge from the rectum of large quantities of thin mucus, increasing in amount as the tumor increases in size. This mucus must come from the enlarged villi, since, as in this case, the discharge stopped immediately when the tumor was removed, and the surrounding mucous membrane was very pale and could not in that condition have secreted an excess of mucus. In many of the cases blood was lost in large quantities. Quain calls this the "peculiar bleeding tumor of the rectum." When any of the villi are broken free bleeding will certainly occur; and when there is prolapse of the tumor during stool, and it is grasped firmly by the sphincter, such a result could scarcely be avoided, though the villi are not easily broken down or torn. There is a gradual loss of flesh and strength, and this without the loss of blood. In the present case the loss of strength and flesh began long before any blood passed away; so the general prostration must be attributed largely to the loss of mucus, which may amount to several pints daily. The tumor in time will be forced down and prolapse at stool, and when seen by the surgeon need not be mistaken for any other form of growth in the rectum.

Most authors describe these tumors as innocent in character, and to seldom recur after thorough removal; but Mr. Allingham states that they may occur as malignant growths, he having seen three cases in which epithelioma replaced the villous tumor.

18 West Ohio Street.

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Office Boy (to editor)—There's a female book agent outside, sir, an' a red-eyed man what wants to whip de editor.

Editor—Well, show in the man who wants to whip the editor.

## INTESTINAL ANASTOMOSIS.

BY ROBERT ABBE, M. D.,
Surgeon to St. Luke's Hospital, New York; Consulting Surgeon Hospital for Ruptured and Crippled; Professor of Clinical Surgery Post-Graduate Hospital.

Read before the Philadelphia County Medical Society, May, 1888.

About three years ago a lady came to me from the South with a fecal fistula in the right groin, resulting from the sloughing of five inches of intestine in a strangulated hernia. Three physicians had made intelligent operative efforts to close it, and left her only worse off, as the distal end had slipped back and been lost in the abdomen. The case was a challenge to surgical skill. During several months I made careful and conscientious attempts to cure her. At first the abdomen was opened to search for the distal end; it could not be found. Therefore I stitched the proximal end and the ascending colon side by side in the wound, and a few days later opened the colon. A permanent channel was thus established between ileum and colon, when the fistula was capped, and some movements occurred per anum. Dupuytren's enterotome was then applied, and the spur cut through for two and a half inches. Still the big fistula leaked most of its contents.

Two elaborate plastic operations were then done, using the abdominal skin after the manner of Czymanowski, by which I had closed urethral fistulæ. But these proved futile, and she remained with the usual excoriated abdomen, filthy wound and marasmus. My colleague, Dr. McBurney, then tried a partial resection of the edges, with inversion and suturing, and from this operation she died.

I have narrated briefly this case to illustrate what you know represents a considerable class of sufferers whose fecal fistulæ until very recently have baffled the surgeon. Such cases rankle in the memory of us all, as marking the limit at which successful work comes to a halt. To-day, thanks to the untiring energy and genius of Dr. Senn, of Milwaukee, such, and many other cases, can be offered

the hope of immediate relief by intestinal anastomosis.

The principle of intestinal anastomosis is by no means new. It is on the technique of operative procedure only that its appeal to renewed favor rests. I need not narrate to you the methods formerly in vogue to restore the intestinal canal. Plastic operations, resections with circular enterorraphy, and lateral apposition with suturing, have had a certain value for many years; the unanswerable objections to them all being a dangerous consumption of time, frequent leakage and secondary abscesses. With Senn's researches, new life has been infused into this branch of surgery. I will not review his work, but remind you for the moment that it covers the ground of experimental production of intestinal flexion, volvulus, stenosis, invagination and resection, and in reparative work the study of two methods of restoring the intestinal canal—lateral implantation of a smaller into a larger gut, and lateral apposition of openings into smaller portions of bowel. The outcome of it all has been an anastomosis of an interrupted intestinal canal by the safe and speedy method of using decalcified bone plates for approximation. I believe the value of this method will soon be recognized everywhere. His experiments have already been repeated by several and the results uniformly verified.

Those done by Mr. F. B. Jessett and Mr. Victor Horsley, and reported six weeks since to the Royal Medical and Chirurgical Society, are noteworthy. Jessett adds his statistics to those of Senn and Curtis, and finds that approximation by the Czerny-Lembert method showed a mortality of about 86½ per cent against 25 per cent by the method of lateral implantation, and 7½ by means of Senn's bone approximation disks. A method which thus offers an advantage ten times as great as the old one in mortality, and that can be done in one-third or one-quarter of the time, may well inspire enthusiasm.

The application of this principle to man has as yet been limited. Dr. Senn has in six cases applied the plate method in gastro-enterostomy for cancer of the pylorus with results detailed in four of them in his "Intestinal Surgery." The two recently done are also successful.

Dr. Fenger, of Chicago, and Dr. Hunter, of Minneapolis, have also used them. Successful each in one case. Dr. Ransohoff, of Cincinnati, operated December 31 for gastro-enterostomy by plates in a case of malignant pyloric stenosis with excellent success.

An extended search fails to find other recorded cases. My own experience includes some experiments on dogs, and two successful applications to the human subject. The man whom I first operated on lived three and a half months after I united his ascending and transverse colon by Senn's plates on either side of a malignant stenosis of the hepatic flexure of the colon. His case has been fully reported in the *N. Y. Med. Journ.*, March 23, last.

The essential points of the case were progressive obstruction, enormous fecal accumulation, marasmus, and finally collapse—relieved by a colotomy done when he was in extremis, and followed six weeks later by colo-colostomy with Senn's plates, November 14, 1888. After this he rapidly gained and in three months was enjoying excellent health. Suddenly there ensued a painless diarrhea that could not be checked. Rapid emaciation and death followed in twenty days. Autopsy showed that nature had made an artificial opening between the duodenum and transverse colon at the site of malignant stricture. Thus all the small intestine had been excluded, and food passed practically from his stomach directly into his colon undigested; and starvation followed.

The specimen which you see shows perfectly the aperture between the portions of colon. It is an oval the long diameter of which is an inch and a quarter; nearly as long as the incision made three months before. It shows there is little to be feared from the contraction of the opening, and it also shows that an opening very much smaller than the diameter of the bowel is competent to allow one part to empty into another.

I would have been very glad to have been able to make a larger opening, but this was about the maximum possible by using Senn's plates. The patient had had daily evacuation of the bowels, but it had been half the time through the use of mild cathartics. A larger opening would have obviated the use of these.

The needs of this case, coupled with the fact that I had not been able to get large enough plates to suit the colon, and that the preparation of decalcified bone plates consumed several days and considerable labor, led me to review the ground that had been gone over to get a more available material. I was aware that almost every known soluble substance had been tried, including cartilage which Jobert and others had used. I devised a ring of rubber made in segments fastened by catgut which would fall apart after a few days, but abandoned that when I made a stiff one entirely of catgut, which, being wholly digestible, would accomplish what the plates of bone would and then disappear. I made some small sets and tried them on a dog, with the assistance of Dr. Wier and Dr. B. Farquhar Curtis. The beautiful results are seen in these two specimens. When the gut was cut, the ends were invaginated and sutured by continuous Lembert stitch. The two ends being laid side by side, a longitudinal cut was made in each near its end, a ring slipped into the gap in each and four sutures on the ring stitched through the edge of the gap. The corresponding threads now being tied, pulled the two rings together, and the edges of the opening were thus sandwiched, as it were, between two rings. Four extra silk stitches were added outside to prevent the lips of the cuts puffing out between the first threads.

The proof of the security of apposition is seen in the dog's recovery. Evacuations were free and regular after the operation, and each of these specimens were taken out with the dog in perfect health nine days after the operation. The union was so perfect that the intestine would have burst elsewhere sooner than have given way at this place. The catgut had entirely gone; a few of the silk threads that held them were yet loosely hanging in the puncture points, ready to come out on slight pulling. The coils of approximated gut, though performing their functions well, showed considerable contortion, and in two later experiments, the results of which are here seen, I turned the divided ends to look in opposite directions with better result. These were done on the same dog at the same time, and were made to show a class of physicians the advantage of this method where multiple resections of the gut might be called for, as in gunshot wounds. Four inches of intestine were cut out at each place, and the catgut apposition rings applied, the ends being reversed. The result has been perfect. A very large aperture of communication has been obtained by the long, narrow ring, which so easily slips into the bowel. The twisting of the adherent coils was not nearly so much as in the former case. I am convinced that by the two expedients of using long narrow apposition rings to obtain a large opening, and by placing the intestines as suggested, to obtain continucus peristaltic wave, we obviate a temporary blocking of the operated part which must obtain with the bone plates and small openings, and which leads to much twisting.

In this experiment it took exactly fifteen minutes to resect and complete each apposition. This includes a continuous outside silk suture around the circumference of the ring, which was applied quicker than half the number of interrupted sutures could have been.

An opportunity now came to put in practice the method above described. In November last a woman of slight build and thirty years old came under my care at St. Luke's Hospital, with a history of uterine disorder for two years, and presenting a small tumor in the right iliac fossa. She had vomited, became anemic, suffered much local pain, and had developed night-sweats with slight hectic. Pyosalpinx was diagnosed and operation advised. A five inch median cut was made above the pubes. The diseased mass with

omentum and coils of small intestine intimately adherent, was found to be a suppurating ovary as large as a goose-egg. Some intestines were stripped off, others seemed too firm. One of my assistants, a distinguished disciple of Mr. Tait, being asked to examine to see whether the tumor could be removed, or whether it had best be scraped out and drained, succeeded, while examining, in digging the ovary from its bed, after the manner of Tait, who says no tumor of this character need ever be left, no matter how firmly adherent. I was surprised and delighted to be shown that this mass could be thus removed by the fingers. Notwithstanding that the suppuration had been disseminated in the wound, it was readily douched away by copious hot-water effusions; but great chagrin followed the immediate discovery that a circle more than an inch in diameter had been torn from the side of an adherent loop of intestine and was on the tumor. Feces appeared at once in the deep cul-de-sac of the pelvis. I promptly found and sutured the damaged bowel, irrigated and applied a tamponade of iodoform gauze lightly, and closed the wound except for drainage. Two days later, feces welled up in the wound, and a horrible, and, I feared, a hopeless fecal fistula was thenceforth established.

During the following six months the patient passed through not only the suffering incident to her fecal fistula, but also a severe attack of scarlet fever with acute desquamative nephritis. And when I returned to hospital duty I found her emaciated and weighing less than seventy pounds. Her abdominal wound healed, except over the pubis, where a long fnnnel-shaped wound lined by poor granulations, gave vent to her entire fecal discharge, which came fsom the depths of the pelvis. The skin about it was sadly excorated, and too tender to allow adhesive straps to retain dressings. She was of a cheerful disposition, and hopefully looked to me to relieve her, even at the risk of life, which had become a burden. With the picture in my mind of the intestines matted together, and in the midst of all a portion whose lumen was destroyed, from which feces poured in the site of the ovarian abscess, I looked upon the case with grave doubt of cure.

The more so, because she had been subject to a hectic, with daily exacerbation of temperature to 102° and 103° up to the day of operation. My experiments with intestinal anastomosis, however, gave hope, and on March 22—six weeks ago, I operated in the presence, among others, of your President, Dr. Keen.

Ether anesthesia was used, notwithstanding she had five per cent of albumin in her urine.

I dissected out the poor cicatrix around the funnel-shaped fistula, and opened the laparotomy wound upward. The intestines in the entire lower abdomen were matted firmly together, and uniformly studded with miliary tubercles. The pathologist's report confirms this, and I presume the original ovarian mass was a tubercular ovary, though I regret to say it was mislaid at the operation. With great care the intestine leading to the fistula was dissected out on either side of it for four inches, and cut squarely across. The ends were then turned in for half an inch, and closed by a single row of continuous Lembert sutures of fine black silk. It was impossible here to turn the ends in opposite directions, and they were laid side by side, split open longitudinally for an inch and three-quarters, nearly to the end, and united by catgut apposition rings, with a half-dozen reinforcing silk stitches outside. The entire wound was douched liberally with hot water, and a portion of the deeply adherent gut between the cut ends was further dissented away. The wound was closed, except for a light tamponade of gauze at the site of the fistula.

The patient rallied nicely, had no pain whatever, and no feces came into the wound. She had a little vomiting the next day, but retained koumys and champagne, an ounce every two hours, in drachm doses. At the end of fourth day, her temperature having risen to 102°, I gave liq. magnes citrat. ℥jv, and repeated. Three natural and painless

movements passed by the rectum for the first time in six months, and her temperature fell to 100°.

Daily movements took place from that time on, at first assisted by four ounces of magnesia every third day. The wound granulated nicely, and no feces have ever appeared there.

The patient walked about after the fourth week, and is restored in appetite and health. She now gains three pounds weekly, is free from pain, and making a happy convalescence. Her evacuations are normal and regular, well formed, and occur without the use of medicines.

Thus is completed a proof of the efficacy of a new method, treating a malady which I know of no other method as competent to cope with.

I can hardly conceive of a fecal fistula in any part of the bowel (except perhaps low in the rectum), that may not be safely cured by this method, provided the distal portion is not blocked by disease.

In cases of gangrenous hernia, bullet or other wounds requiring exsection of a portion of the bowel, it may be applied at once, or after an artificial anus is established and the patient is convalescing.

No surgeon or physician need hesitate to make a fistula to relieve obstruction, or in other suitable cases where the equipment to complete the immediate anastomosis is not at hand, or where the patient's condition will not endure much interference, as in the first case narrated.

Two weeks ago my friend, Dr. Charles McBurney, applied a set of my catgut rings to a case of gastro-enterostomy, and writes as follows:

"The case was one of cancer of the pylorus which caused total obstruction. The patient would not consent to an operation until he was nearly moribund. The anastomosis was made between the highest part of the jejunum and the anterior of the stomach, near the greater curvature, and about three inches from the pylorus.

"The operation was perfectly easy and rapid, and the rings acted perfectly. The whole operation took forty-five minutes, much time being lost on account of imperfect washing of the stomach beforehand. I think it could easily be done inside of thirty minutes.

"Death occurred from inanition about twelve hours later. On careful post-mortem test, the stomach being filled with colored fluid and held up, absolutely no leakage at the site of operation occurred."

To make the rings most efficiently the following steps must be observed: A moderately heavy catgut is chosen; taken from alcohol or juniper oil, it is wound loosely on a test tube and soaked in hot water. It soon kinks up, and were it not on a tube could hardly be unravelled. After a while it is straightened out, allowed to untwist, wound again loosely, and soaked in hot water once more, until it ceases to twist. It is then ready to make up into rings, which will lie perfectly flat. Eight or ten turns over two pins stuck in a cork two inches apart, with make a bundle somewhat smaller than a lead pencil. These may be tied at four places with fine silk, to secure the strands parallel while being wound round like a cable, with a continuous piece of the same catgut. The end of the piece is secured by threading it into a Hagedorn needle, and transfixing the whole bundle obliquely with it at the place of finishing. Thus there are no knots, and it is difficult to find the point of beginning.

The ring is now a long oval with an inside diameter of two inches, and in thickness smaller than a pencil. Six strong but small braided silk threads are now fixed to each ring, equidistant, on the face looking toward the other ring which is to be laid against it.

No knots are used. A needle pierces the ring between the strands, carrying the thread, which is drawn through, all but 8 in., and wound once and a half round, sinking between the encircling catgut, piercing the ring again, and cut off. The rings, which have now been watersoaked are ready for use, if needed for emergency; but, if possible, they should be kept awhile in alcohol, under pres-

sure between two glass sides, the threads being curled up within the oval, and the sides being pressed together after the glasses are tied tightly together. The ring thus becomes a long oval with parallel sides, and soon becomes harder and flattened on its faces. Moreover, it shrinks a trifle in alcohol, to swell again in the intestine and give additional security.

In using the rings, I find it saves time to have each thread have its own needle. The intestine is pierced from within outward less than a quarter of an inch from its cut edge. The ring should be laid on a damp folded towel with threads in order and needles stuck in the towel, which is held by the assistant close to the bowel, while the operator quickly pulls the thread through and passes the ring into the interior of the bowel. When the threads are tied and cut off, the apposition is perfect, but by a quickly made running suture outside all, a half inch of peritoneal surface is at once secured beyond the possibility of leakage. More than this is superfluous, for the edges held between the rings act as valves.

In invaginating the end of the cut intestine after exsection, one will delay a long while if he tries to turn in first one and then the other edge, and will also find the mesentery try to turn in after it on the attached side. My rule is to trim back the mesentery at least a half inch from the end. Then seizing both lips with toothed forceps, plunge them directly into the lumen. The entire edge usually follows, and one holds them by the left index finger and thumb while a quick running overhand suture of the slit thus formed is made.

## Glaucoma from Chloride of Methyline.

It is said that the administration of chloride of methyline for the production of anesthesia has a tendency to produce glaucoma and also opacity and swelling of the cornea. Panas, of Paris, has corroborated this statement. It seems remarkable that so close an observer as Sir Spencer Wells could use this drug to produce anesthesia in more than 1,000 cases, and yet "its use has never been followed by any dangerous symptom which uld be fairly attributed to it."


# WEEKLY MEDICAL REVIEW,

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EDITOR.

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SATURDAY, JUNE 8, 1889.


## A Malpractice Suit.

Dr. Lindley, one of the editors of the *Southern California Prac.*, attended the late meeting of the State Medical Association at San Francisco. On his return to Los Angeles he was greeted by the news that a suit for $20,000 had been brought against him on account of alleged malpractice. The complaint alleges that in an obstetrical case (one of version), an assistant of Dr. Lindley, in moving the patient on the bed, dislocated her shoulder.

In such cases as this one a most excellent law would be one that would require the plaintiff not only to bear the costs of the suit but to pay the physician for trouble and expense in defending the suit in the event the verdict is found in the defendant's favor. Accidents and complications, which no amount of care or skill on the part of physicians can obviate, are constantly arising in practice, and there should be some legal means of protecting doctors from unjust, expensive law suits.

## New Signs of Heart Disease.

Mr. Lazarus Barlow holds that capillary pulsation practically never occurs except when the patient is the subject of some heart lesion. Of 46 cases examined by him, 39 had some abnormal condition of the aortic semilunar valves. His method of examination (*Med. and Surg. Report.*) is to evert the mucous membrane of the lower lip and press against

it a microscopic slide. What is then seen in a typical case is a central patch into which no blood comes, owing to the pressure of the slide; but at some varying distance from the center is a narrow zone in which the color intermittently becomes deeper red and then paler over the whole patch, while the edge seems to be in continuous movement, now encroaching upon, now receding from the area of greater anemia which lies next it. It is important in manipulating the slide to heed the caution insisted upon by Mr. Barlow, namely, that trembling of the observer's hands, or powerful pulsation of his arteries may lead to error in diagnosis by producing a varying anemia of the area under inspection, due to unsteady pressure of the slide against the mucous membrane. To constitute capillary pulsation, therefore, the flushings observed must correspond with the frequency of the heart beats.

The diagnostic value of this symptom is still in dispute. The editor of the *Reporter* says that if it is proven to be of value then it may be possible to recognize grave lesions of the aortic valves at an earlier stage of the disease than is possible by other physical signs.

Dr. Duclos, of Tours, has observed (*Med Rec.*) that delayed pulsation at the wrist—the radial artery pulsating about two thirds of a second after contraction of the heart—was followed at the end of from 24 to 36 hours by a heart murmur. This was noticed in many cases of acute articular rheumatism, in two cases of typhoid fever and three of erysipelas, in which endocarditis afterward developed.

Dr. Duclos draws some practical conclusions, in regard to treatment, based upon the early recognition of the affection, and he believes that he has succeeded in arresting the disease, in certain cases, before irreparable injury has resulted. His plan is to apply immediately a large fly blister over the precordial region, or, in default of this, a mustard plaster, dry cups or leeches. He increases also the dose of the remedy that is being at the same time given for the rheumatism. Of course, a strict enforcement of recumbency is also indicated."

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### The Ann Arbor Clinic Question.

The *Med. Age* has invited a number of prominent physicians of Detroit and of the Faculty of the Medical Department of Michigan University to express opinions as to the advantages or disadvantages of establishing the Medical Department of the University in the city of Detroit. Most of those consulted answered the question "emphatically in the affirmative."

First-class medical colleges must have good clinics, and these can be had only in thickly settled districts, but universities flourish best in suburban or country locations.

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### A New Treatment of Diphtheria.

This is the title of a paper by Dr. E. Gaucher, of Paris, published in the *Med. Age* of May 10, 1889. He believes that diphtheria is infectious, but that the infection is always local first, then general. He rightly holds that if the disease is general from the beginning, all efforts directed against the local disease will have little or no efficacy. His reasons for believing the disease to be local first are as follows:

First. It is a fact that we often witness benign attacks of diphtheria without general infection, or with tardy infection, and diphtheritic patches localized in the throat during the whole or during the greater part of their duration.

I find another argument in the primary seat of the pseudo-membranous exudation, which may be other than the pharynx. It is not always in the throat that the diphtheritic germ finds lodgment. Ordinarily, indeed, diphtheria begins in the throat, because this common vestibule of the respiratory and digestive passages is the most exposed to germs coming from the atmosphere; but there are primary diphtheritic stomatites; there are croups at the onset; there are diphtheritic bronchites, with consecutive croup and an-

gina; there are primary cutaneous diphtherias. If the skin is denuded; if the mucous membranes of the mouth, of the larynx or bronchi, are inflamed or irritated; it is there that the infectious germ may implant itself and undergo development first. There is no dispute relative to diphtheritic stomatitis, to true croup at the start, or to cutaneous diphtheria. As for primary diphtheritic bronchitis, this form also exists.

He gives a brief account of a case of primary diphtheritic bronchitis.

Roux and Yersin, of the Pasteur Laboratory, have recently published the results of their cultivation of the diphtheritic microbe, from which they conclude that the general infection is due to a ptomaine which is produced by the microbe. These results, M. Gaucher thinks, corroborate his views as to the nature of the disease.

His treatment is to destroy the false membrane by means of caustics and remove it by "energetic swabbing and rubbing" with the swab that has been dipped in the caustic solution. He does not hestitate to remove a part of the mucous membrane underlying the false membrane, as this is cauterized after the false membrane has been taken off.

He advises that the caustic be applied twice a day, and irrigate the throat with a one per cent solution of carbolic acid immediately after each cauterization, and also every two hours. The pain in some cases is very severe. It may be mitigated by applying a 3 per cent cocaine solution by means of a spray.

He has treated by this method 16 cases of the utmost gravity, all of whom recovered. His colleague, Dr. Dubousquet Laborderie treated 84 cases, of grave and malignant character, of which 80 recovered.

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## The Mississippi Valley Medical Association.

The next annual meeting of the Association will be held in Evansville, Indiana, September 24, 25 and 26, 1889. The officers for this year are: President, Dr. George J. Cook, Indianapolis; Vice-presidents, Dr. J. D. Griffiths, Kansas City, and Dr. J. A. Larrabee, Louisville; Secretary, Dr. R. L. Thomson, St. Louis; Treasurer, Dr. C. W. Chapman, Toledo, O.; Chairman Committee of Arrangements, Dr. A. M. Owen, Evansville.

This association, the offspring of the Tri-State Society, which was composed of the states of Indiana, Kentucky and Illinois and organized under the present name in 1883, is rapidly attaining the object of its formation, that is, a thorough organization of the members of the regular medical profession of the entire Mississippi Valley, thus to foster, advance and disseminate medical knowledge, and to uphold the honor and to maintain the dignity of the medical profession.

Last year many members in the Gulf States were unable to attend the meeting in St. Louis on account of the yellow fever quarantine throughout the South. We hope that this year nothing of this character will hinder, so that every State will be fully represented, as questions of importance to the entire profession of the South and West will be before the association for consideration.

Every member of the regular profession, in good standing, can become a member of this association, and all are earnestly invited to attend this year.

The importance of an association to bring together the medical profession within this territory must be apparent to every one, as there are many interests in common, and individual welfare can be best promoted by the advancement of the interests of all. Heretofore the meetings of this association have been characterized by the best thought of the profession, and the results of work eminently practical in character.

The indications are that this coming meeting will be larger than any yet held by the association.

Evansville was selected as a place of meeting on account of its central location, being easily accessible from all points, by river and by rail.

The Committee of Arrangements are already actively at work, arranging for a royal

reception of the society in September. Many papers have been promised by prominent members of the profession.

All who desire to read papers at this meeting should send the titles to the chairman of the committee of arrangement, Dr. A. M. Owen, Evansville, Ind., or to the Secretary, Dr. R. L. Thomson, 3555 Olive St., St. Louis, Mo.

### Treatment of Acne.

In a recent number of the Review we took occasion to call the attention of the profession to the beneficial effects of an ointment composed of salicylic acid, lanolin and vaseline. Mr. James Startin (*Lond. Lancet*, May 11) has found that the application of steam directly to the skin of the face is a valuable adjunct to other methods of treatment. He recommends a steam generator that is quite universally used in this country for steaming the throat. He advises that the face be steamed for twenty or thirty minutes, and then the face should be rubbed gently with a towel.

This is certainly a rational treatment and its application is very simple. In cases of long-standing acne, the skin becomes hard and thickened, and theoretically the application of the ointment above mentioned immediately after the use of the steam would be a most excellent treatment.

### The Illinois State Medical Society.

About 200 members attended the annual meeting of this society, held in Jacksonville, May 21, 22 and 23. The meeting was thoroughly a successful one. The address of the president on "Inebriety and the Responsibility of Physicians in Prescribing Alcoholic Remedies in the Treatment of Disease," was a strong one.

I fully agree with Dr. Earle in his conclusions, when he says that drunkenness is to no considerable degree derived from hereditary influence—that it is not the result of a primary disease of the nervous system, called inebriety. He rightly holds that at least three-fourths of those addicted to the use of alcoholics can quit drinking if they choose to do so.

For the remaining one-fourth, Dr. Earle believes the state should provide asylums and legal restraint, just as it does for the insane.

The next annual meeting of this society will be held in Chicago on the third Tuesday in May, 1890. Dr. W. Graham, of Chicago, is the permanent secretary.

### A Remarkable Case of Morphine Addiction.

Dr. Wm. Stuart, of New Zealand, reports a case in the *Brit. Med. Jour.* in which a man, 28 years of age, of powerful physique, had taken regularly for many months forty grains of acetate of morphia every twenty-four hours hypodermically. His arms and legs were literally covered with scars made by the use of the hypodermic needle.

When seen by Dr. Stuart, he had difficulty in swallowing and a stiff neck. Three days later he had become worse, and had marked permanent trismus; severe spasms of the muscles of the neck and back, the sterno-mastoid standing out like cords; profuse perspiration and trembling of the hands; pulse 100; temperature 100.3°; pupils dilated, responding but slightly to light. It was at this time that the attending physician was informed of the amount of morphine which the patient was accustomed to taking. The use of this drug was at once stopped, and the patient was given hypodermics of water as a placebo. Dr. Stuart thinks the only medicine which he used that did any good was the nitrite of amyl by inhalation. The spasms gradually decreased and the patient made a good recovery.

### Surgical Treatment of Pulmonary Cavities.

A case is reported in the *Brit. Med. Jour.*, May 4, by Mr. J. D. Harris, which illustrates the value of an operation to secure external

drainage when a cavity in the lungs is filled with pus. The patient, a man, æt. 33 years, had an abscess to form iu his left kidney; the abscess opened in five places in the back on the left side and discharged a great deal of pus and watery fluid. Under judicious treatment all the fistulas closed except one, and the patient was convalescent. Shortly after this he was attacked with pneumonia of the left lung, and the old fistulas in the back broke open and discharged copiously. At the end of five weeks the pneumonic exudation broke down forming an abscess; expectoration was profuse and fetid. The patient rapidly became emaciated. An opening was made through the thoracic wall, the cavity in the lung cleansed and a drainage tube inserted. From this time on the patient improved, the renal fistulas again closed, except one, and the patient regained a fair degree of health.

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## CORRESPONDENCE.

### CHLOROFORM IN OBSTETRICS.

East St. Louis, Ills., June 3, 1889.

Editor Review.—I wish to take some exceptions to the article on the above topic by Dr. Love in last week's Review. To speak of chloroform in labor as we speak of food to the hungry seems to me altogether too sweeping. I should also be opposed to "purging my patients daily during the entire period of pregnancy." Child-bearing is certainly not such a morbid process as to require the attention of a medical man from first to last. On the contrary, it is an eminently natural and healthy procedure, and in the vast majority of cases the more it is let alone the better it is for both mother and child. And this wholesome letting alone should apply not only to the pregnant state, but to the act of labor also. There are few women indeed who are not equal to the emergency without interference. A fine piece of clock-work will continue to point the time, strike the hours and ring a bell, all with perfect accuracy. And in the same manner the wonderful mechanism of animal nature will, with rare exceptions, perform all its functions with perfect regularity.

"Meddlesome midwifery" is too often like a child tampering with a clock. This, I think, in many instances is the misfortune of our sisters in obstetrics, the midwives. Their sympathetic natures and more active nervous organizations impel them to "do something." They cannot sit still and see a woman suffer. They remain constantly at the bed-side, and with one hand pull to their fullest strength upon the wrist of the sufferer, while with the other they constantly and terribly irritate her vulva and vagina. Add to this the frequent administration of all sorts of teas, together with large doses of ergot, and the poor woman has but a slim chance for a natural labor. Equally foolish and often pernicious is the practice of "supporting the perineum." I remember with amusement my early struggles in this "benign" work. I went forth to the battle of midwifery fully imbued with the idea that I must support the perineum; and I did it at all hazards and under all circumstances from the moment of my arrival at the lying-in chamber until the last pain died away in the silence of delivery; unless, perchance, the confusion of the last pain threw me off my guard. And while my experience in this respect was probably similar to others in having this portion of anatomy fearfully ruptured every now and then, still nobody could lay the charge at my door of not "supporting the perineum." I can discern little difference in a medical man continually pressing upon the perineum and the midwife constantly thrusting her fingers into the vagina for hours, and maybe days, before the child is born.

*Labor omnia vincit* is true, but the labor must be done by the woman and not by the medical attendant. It cannot be maintained that woman is physically deteriorating so rapidly as to have all her conditions changed in less than half a century. It is within the memory of most of us when it was no uncommon thing for a woman to be the happy mother of ten or twelve children, all born without the use of purgatives or ergot or chloroform. And is woman now so "advanced" that she

can bear but two or three children, take purgatives during her entire pregnancy, and when labor comes on take ergot to increase the pains and chloroform to annul them? It is not intended to deprecate the use of these medicinal agents altogether, for there are cases where some or all of them are needed. Chloroform is a boon to womankind, but in the majority of labors it is not required. Where the nervous organization is such as to render the woman peculiarly susceptible to pain, or where the labor is especially prolonged or difficult, some anesthetic is indicated. Even in such cases, often either the fear or the courage of the woman prevents her from availing herself of this source of relief. But in more than half the labors we meet with, there are only two or three hours of pains that can be called severe, and in many cases much less than this. Are these to be treated with chloroform and ergot? Is pain so dreadful as to be fled from with fear? It is certainly not advised to seek the painful, but to bear the pain that lies in one's pathway without complaint is a most ennobling act. One of the best of all lessons is to learn to suffer without complaining, and pain that is borne is the only teacher. The bearing of pain is an educaton that has relation not only to this particular thing, but to the general character of the individual. To bear a pain is to fight a battle and win a victory, and the laurels of a victory extend to the whole being. But to take flight from a little suffering is to weaken the moral nature. The tendency of many forms of moral culture is to exaggerate pain. This was illustrated in one of our humorous papers a few months ago. A circle of fashionable young ladies was surrounding one of their number, upon the end of whose finger a slight pustule had been discovered. The face of the sufferer was writhing in the greatest agony, while each of the coterie suggested some wonderful remedy.

Let chloroform be given where it is absolutely needed, but all honor to the woman who bears her pain without it.

H. C. Fairbrother.

## SOCIETY PROCEEDINGS.

### MISSOURI STATE MEDICAL ASSOCIATION, MAY 21st AND 22nd, 1889.

The President, Dr. A. W. McAlester, in the chair.

[continued from page 612].

Croup.—Observations On the Use and Abuse of the Term, by G. Hurt, M. D., St. Louis, Mo.

The term croup is derived from the peculiar stridulous, crowing sounds produced by the voice in speaking or talking; it is therefore not a disease, but a symptom indicating disease or constriction of the upper air passages, being determined by whatever determines the laryngitis or constriction. It may indicate not one or two, but several pathological conditions, each having a separate and distinct pathological factor. The trend of modern opinion appears to be towards the belief that the etiological factor of pseudo-membranous laryngitis is diphtheria, and that without diphtheria there can be no pseudo-membranous croup; but if we adopt this idea then we must either deny that fibro-plastic infiltration and exudation are common phenomena of inflammation or that inflammation ever attacks the structures of the larynx or trachea. But to accept of either one of these postulates, we come in conflict with some of the best known facts in pathological science; nothing is better known in this department than that the exudation of fibroplastic matters is a frequent concomitant of inflammation, and in fact it affords in many cases the chief products of the inflammatory processes. Many authors support the view that croup is a symptom indicating stenosis of the larynx; that stenosis of a dangerous character is not always and necessarily pseudo-membranous and that pseudo-membranous larnygitis is not always necessarily diphtheritic in an etiological sense.

And yet there are many, among them Sir Morrell McKenzie, who seem unwilling to admit the possibility of such a thing as non-diphtheritic pseudo-membranous laryngitis.

In scientific parlance, names are usually derived from something which the thing named resembles, or is supposed to resemble, and hence we maintain that croup is a sound of the voice, indicating stenosis of the larynx, but it gives no clue to the etiological factor. And in view of the fact that any cause capable of producing the stenosis may be the factor in determining the sound, we submit that it would be more satisfactory to so reconstruct the nomenclature as to make it conform to and express more clearly the pathological condition, or etiological factor in each case, as the spasmodic, the diptheretic, the catarrhal, the inflammatory, the pseudo-membranous and the edematus croup, or laryngitis. This would at least obviate the necessity of assuming that in all cases, except the spasmodic, croup is diphtheria and nothing else.

DISCUSSION.

DR. MULHALL.—Regarding the question as to the identity or non-identity of croup and diphtheria occurring in the larynx, there was a considerable amount of discussion in the Clinical Society of London and the consensus of opinion was that there was no such thing as croupous laryngitis; that they were both the same. But I think there is such a thing as plastic laryngitis, which is not diphtheria. Does it not occur in the nose and the pharynx when it is not diphtheria? Possibly Dr. Hall would call it diphtheroid. But there is such a thing as plastic membranous tonsillitis, where the parts are covered with membrane, not that of diphtheria. It is rare in any part of the body, but it does occur in the pharynx, in the trachea, the colon or rectum, and the probabilities are that in the larynges of children the follicular laryngitis is exceptionally rare.

As far as the practical value of differentiating is concerned, it matters very little, because the treatment of the two is pretty much the same. No one can tell whether it is croupous or diphtheritic laryngitis, at the time when diphtheria is prevalent.

DR. E. VAN QUAST.—I believe with Dr. Mulhall that there are two different diseases, plastic and diphtheretic laryngitis. True, membranous croup is certainly a rare disease. Its onset is sudden and the child is taken generally towards night with symptoms of hoarseness, which gradually increase, become more severe towards the small hours, and better towards morning. In this way it gradually increases for three or four days, when the patient dies. Diphtheritic laryngitis travels downwards until it reaches the larynx and goes into the trachea and the child dies.

I do not believe I have seen a case of real diphtheritic laryngitis recover. Sometimes diphtheritic laryngitis comes on after the child has been up and about playing; all of a sudden it tries to swallow, maybe water, and it cannot. There is paralysis of the vocal cord, and he dies within twenty-four hours; that is from the paralysis of the cords. The child may die, on the other hand, from an extension of the membrane downwards. In a true case of membranous croup, there is never any albumen in the urine. This is a prominent feature, because in true diphtheritic croup there is septicemia and albuminuria, whereas in membranous croup, there is not.

DR. HURT.—I think that the gentlemen all agree that there is such a thing as pseudo-membrane without the presence of a specific germ. The diphtheritic germ must necessarily have a lesion of the tissue before it will colonize, and that must be the case before the germ is capable of producing inflammation; and inflammation, then, is the cause of the adventitious tissue. The germ itself cannot construct the membrane. It is often the case that the membrane is formed before the germ makes its home there and he finds it a suitable nest; hence the large majority of cases of pseudo-membranous croup lead to diphtheria if they are not conjoined with it before.

DIPHTHERIA AND DIPHTHEROID, by C. Lester Hall, M. D., Marshall.

After giving a somewhat historical survey of the subject, the author claimed that the present tendency may be construed as being one towards the separation of the so-called forms of diptheria, into distinct types of disease with different forms of bacteria for their origin. Discussion is still rife, however,

as to the particular one which causes real diptheria. For some years the writer has studied the association and relationship between follicular tonsillitis and diptheria, and while being able to clearly differentiate the one from the other, he at the same time recognizes that there frequently are cases of pure and simple follicular tonsillitis, which are associated with, or followed by, a deposit on the posterior walls of the soft palate and uvula, similar in its persistence and appearance to that of diphtheria, and yet not accompanied by that amount of constitutional disturbance, which we meet in diphtheria of a few days standing. It is this condition so closely allied to diphtheria, and yet separable from it, for which he proposes the name of "diphtheroid."

Cases were related for the purpose of substantiating his claim for the recognition of the necessity of this new term; quotations from various authors showed that several different forms of bacteria are involved in the production of the different grades and types of diphtheria; therefore, the conclusion must be, that diphtheria either has not a constant cause, is not the product of a specific germ or that we have been giving the name "diphtheria" to a condition pseudo-membranous in character, and lacking many, very many, of the etiological characteristics of genuine diphtheria, and which is so amenible to treatment, that we are often led into a feeling of false security and confidence, which sooner or later recoils upon us to our great sorrow and cha grin. Therefore he advocates the finer differentiation between the two, and the employment of the term which he has proposed.

In the treatment of the diseases mentioned, after experiencing many disappointments in the use of the various so called solvents of the false membrane, Dr. Hall at last made use of Churchill's tincture of iodine, applying it locally with a camel's hair brush, limiting the application to the pseudo-membrane; at the same time, compelling the patient to keep the mouth open, so as to conduce to rapid evaporation of the fluid part of the tincture, leaving the iodine to remain as a layer, coating the membrane. The throat is also swabbed out with bichloride solution in the strength of one to one thousand. From this treatment he has obtained markedly beneficial results; even preventing, or at least mediating, the severity of the constitutional infection. If constitutional infection has already taken place when the case is first seen, he uses in addition to the local treatment, whiskey and mercury internally. Both of these remedies are borne in wonderfully large quantities under such circumstances, and they should be pushed to their limit in order to get the desired results.

### Discussion.

Dr. Guhman.—Before I left St. Louis I had a singular case, one of follicular tonsillitis. There was a membranous exudation on the part of the right tonsil; notwithstanding local treatment, it remained. Three days ago I took a spoon and detached the membrane, bringing it away; at the center it was nearly an inch in thickness.

The peculiarity about it was that one day the exudation on the tonsil would be completely gone, and the next day you could see the tonsil covered with the white lymph-exudate. You may be aware that we had an epidemic of this disease of follicular tonsillitis in St. Louis last year, many of the cases presenting the same peculiarities as in this case, of which I speak. I do not think it was diphtheria. There was not that constitutional disturbance and rapid spreading usually incident to diphtheria. This is the kind of cases where we all get fooled. One day the membrane may be absent, and three or four days later you see the whole throat and mouth filled with it.

Dr. Schauffler.—The question is as to whether we have two diseases, one of which is diphtheria and the other is like diphtheria, but each of which are of different origin, let us suppose bacterial in nature. I think that it is probable that more thorough investigation and more careful separation and study of these diseases will show the correctness of the position taken by Dr. Hall, that there is a genuine diphtheria and another membranous

affection, which might be called diptheroid. It is pretty hard to draw the line between them. I believe we are approaching a separation of these cases on a scientific basis. I should not wonder if the first case of follicular inflammation, the one that died, ought not to be put in the category of diphtheria. It is our duty to kill the germ within the mouth, and the compound tincture of iodine is good for this purpose.

Dr. Fryor.—In reference to the treatment of this affection, I am in accord with both the reader and Dr. Schauffler.

I have used the iodine, and also a remedy which I am sorry to say is not so much in use to-day, bromine, in the strength of from 10 to 15 drops to an ounce of glycerine. This application acts very well; iodine also works very well.

Dr. Pinckney French.—I wish to endorse a great deal that was said in the paper, and also the views taken of the paper by Dr. Schauffler.

It seems to me that we are entangling ourselves in the terms proposed. I was always opposed to the term typho-malarial fever. It means simply an inability to distinguish between malarial and typhoid fever. I think that the profession is entirely agreed upon this. There is no such thing really as typho-malarial fever. We are in the habit of speaking of epileptoid convulsions, and we do this simply because we are unable to distinguish definitely what the character of the convulsion which we have before us is. It means nothing if we say it is epileptoid. Now, during the past few years I have observed in the town in which I live a great many cases of tonsillitis, accompanied by membranous deposit of the kind to which he refers; at the same time we are apt to have a great deal of throat trouble of milder grades; the cases that I observed, I think, were nothing more than tonsillitis, accompanied by a membranous formation.

I object to the term diphtheroid simply from the fact that everything that comes under our observation, whether it is diphtheria or tonsillitis, would be called diphtheroid. I believe in the theory of diphtheria, but I believe diphtheria is diphtheria, and is not to be mixed up with something else.

Dr. J. C. Mulhall.—I wish to detail to the Association the treatment which I have pursued for the last four years, that is the method of manipulation—not that there is anything new about it, but simply the manner of its application. As long as the membrane is confined to the pharynx and the tonsils, the majority of cases will get well with very simple treatment; but when the membrane begins to approach either of the cavities of the throat where the lymphoid tissue is abundant, then fatality begins. I recognize, as most everyone does, that diphtheria is most likely a germ disease with a period of primary incubation, and of secondary septicemia; I believe, therefore, that the treatment should be antiseptic, and that the application should be as continuous as it is possible to make it. As diphtheria is a very exhausting disease, any treatment that takes away from the child any strength is objectionable. Swabbing of the throat does that, because it makes the child struggle and in that way saps its strength; I have heretofore adopted the plan of using, not a spray nor a swab, but I use simply a household syringe. I believe it is not a matter of common knowledge to the profession, that if you take a common household syringe into the mouth and flush it, you will wash out the throat and not a drop will go into the larynx. I use carbolic acid and tincture of iodine. The child is simply turned on its side, and is not allowed to get up during the time the application is being made.

Inasmuch as the fatality of diphtheria increases as it approaches the nasal cavities, I believe that every case of pharyngeal diphtheria should have the nasal cavities flushed with antiseptic medications, just as we do the throat; furthermore, I am in the habit of blowing into the nares either sulphur or boric acid or iodoform, filling the nostrils full of the powder, which afterwards flows gradually down behind over the throat. In this way we approach as nearly as possible continuous antisepsis.

Dr. Robinson.—The cases I have seen have usually been follicular tonsillitis and have yielded to the simple remedies. It matters not so much about discrimination as to the name, but we want the treatment of the affection.

In a case which I recently saw the temperature reached from 102½ to 104, Fahr., for some days; there were patches on the throat that resisted all means of treatment. I could not call it a case of diphtheria,but the name of diphtheroid would have been a very proper one.

Dr. Hall.—I do not think it possible for very young children to withstand very malignant diphtheria. I wish to emphasize the importance of the Churchill's tincture, because it is an ethereal preparation and dries very rapidly, leaving a layer of iodine over the mucous surface, and you get the effect of the iodine very much better than you would if you used any other preparation.

In regard to the word diphtheroid endeavoring to dodge a diagnosis, that is the very purpose. The term diphtheritic is a loophole to get out of, if we do not know what the case is.

As to the treatment suggested by Dr. Mulhall, I should think it would strangle the child, if it does not scare it very considerably. Iodoform is disagreeable, even if it has any antiseptic properties.

Dr. Matthews.—If Dr. Hall should have a case of diphtheroid and it should die, would he say it was diphtheria or diphtheroid?

Dr. Hall.—I should expect my patients to expect me to be honest in the matter, and I should say that I had made a mistake in the diagnosis.

[to be continued].

## PHILADELPHIA OBSTETRICAL SOCIETY.

Friday, May 3, 1889.

The president, Dr. Theophilus Parvin, in the chair.

[concluded from page 612].

### Retention of Fragments of Placenta Within the Uterus after Labor.

Dr. C. P. Noble read a paper reporting in detail four cases, in each of which the retention of a small piece of placenta gave evidence of septic infection. By removing the pieces of placenta and applying thorough antiseptic treatment the patients recovered.

Continuing, Dr. Noble said: These four cases embrace my experience with retention of pieces of placenta in utero after labor. Having always exercised great care in examining placentæ, I am convinced that it is not always possible to be assured that the placenta is entire. When the cotyledons are not separated, and when no fractures in the placental tissue are present, this is, of course, simple. Likewise no difficulty could be experienced in determining the loss of large fragments. But when a friable placenta is much fractured, and the cotyledons much separated, it is very different, and the absence of small fragments will escape notice, even after minute inspection. The fact that putrefaction of placental tissue resulted in each case is of interest. Two of the women were poor, one in comfortable circumstances, but none had an efficient nurse. Had strict antiseptics on the part on the part of nurse and patient been possible, perhaps the patients would have escaped infection, and the placental tissue have been cast off without putrefaction. However, the relation of non-pathogenetic bacteria, so constantly found in the vagina, to putrefaction, is by no means thoroughly understood. I am satisfied that the infection was not conveyed by myself, as I invariably employ rigid personal antiseptics.

A point of interest is the chill which so commonly follows intra-uterine manipulations in septic cases, after abortion and at term, especially when infected placental or decidual tissue has been removed. It is not so common after simple irrigation. The effect is at first to prejudice one against the method, for the chill and prostration are at times alarming. But observation shows that these apparent bad effects are but temporary, and rapid improvement usually follows the cleaning-out and disinfection of the uterus—perhaps always, if action has been prompt. While ner

vous influences doubtless play an important part in the production of the chill, yet it must be admitted that momentarily increased absorption of poisonous material, through abrasions caused by the finger or instrument, is also a factor. Hence the utmost gentleness, not only during the removal of the retained mass, but also during the subsequent irrigations, is of the utmost importance. For the same reason, the finger is the best curette; and besides, by it alone is it possible to determine with certainty that the uterus is empty. Under anesthesia it is easy to explore thoroughly the uterine cavity with the finger.

In discussing these cases it is unnecessary to consider the propriety of intra-uterine manipulation in the presence of circum-uterine inflammation; but in cases seen early, when absorption of putrid material and perhaps invasion of the tissues by pathogenic micro organisms is taking place from the uterine cavity, there can be no doubt of the propriety and advantage of clearing out the foreign matter and irrigating the uterus until it is thoroughly disinfected.

In these cases the fever was due to putrid infection rather than to the invasion of the tissues by micro-organisms. It is in cases of putrid infection that early local treatment gives especially brilliant results. In no other class of cases is an early diagnosis of more importance, nor are temporizing measures likely to lead to more serious consequences.

GONORRHEAL SALPINGITIS: THREE LAPAROTOMIES: RECOVERY.

DR. HENRY BEATES, JR.—In submitting a report of the following case, a somewhat detailed account will be given, because there are two or three points which, if closely studied, will at least suggest questions challenging the accuracy of notions prevailing among "abdominal surgeons," upon which are based diagnosis, procedure and prognosis. The merely mechanical skill necessary to achieve what is termed a "successful operation" is possessed by so many, that on all sides we hear of removal of uterine appendages for all sorts of functional and organic diseases. The acquiescence of patients to the attendant's suggestion is, undoubtedly, largely dependent upon the assurances of the operator that recovery offers by so large a margin as six, eight and ten per cent, and immunity from suffering by somewhere near ninety-five per cent. 'Tis well enough to cite an operator's report that one hundred and fifty or more consecutive successful operations have been performed, but what is implied by such statements? In this city alone, analysis of the town recovery is demonstrated to mean, escaped death from operation to live on suffering from abdominal hernia and fistula, fecal fistula, neuralgia and disability. Our literature teems with such narratives, and what does it mean? Simply that our knowledge is utterly inadequate to warrant this precipitate rashness, both of operative procedure and prognosis, and that there is demanded a knowledge which will promise, at least, the ability to know when not to operate. Subordinate questions present at the table, involving most profound responsibility, such as the removal of a healthy tube and ovary in cases of unilateral pyosalpinx, because there is a prevalent belief that pus in the tube means gonorrheal infection, and where this radical measure has not been done, subsequently the untouched structures were affected and a second operation required. That such occurrences eventuate no one for a moment questions; but whether pyosalpinx is invariably due to gonorrhea and cannot follow other processes is by no means settled. Again, take a pus-tube; in some we have caseous metamorphosis of the whole structure, while in another there is simply retained pus, the tube being distended, but not organically altered. Does this suggest any thought? Before we unhesitatingly advise radical measures, let us first know whether our notion is an *ignus fatuus* or a well-matured and scientifically proven fact. The course of salpingitis, when considered as a disease per se, is not clearly and definitely known, and there seems to be no effort to classify the symptomatology, and, in a word, its natural history, into recognized pathological conditions. If the question, does pyosalpinx with caseous metamorphosis of

the whole tube belong exclusively to the gonorrheal type? be propounded, is there a valuable reply? Is it known whether pyosalpinx without this change is an inflammation of another type, or, considering both propositions, are there not cases in which the healthy side remains unaffected if left, and if so, why? Then the alternatives form a group of propositions; *i.e.*, whether in certain conditions it is not better to allow non-interference, because of possible after results, such as fistula and remaining unbenefitted. The case I narrate might be contributory to a definite classification but for incidental conditions which, unfortunately, invalidate any such deductions; and it is for this fact, as well as throwing light upon one cause of abdominal fistula, that I presume upon the society's time.

In November, 1886, I was asked by an abdominal surgeon to see a patient in an eleemosynary institution. Right pyosalpinx was diagnosticated, and her poorly-nourished, anemic and illy-developed condition attributed to the long suffering incident to the affection. She had a high-temperature range, and was in agony. The condition, we had every reason to infer, was due to gonorrhea. The operator removed the affected tube, which was filled with pus and caseous material, as well as the ovary, which had undergone cystic changes. The apparently healthy left tube and ovary were allowed to remain. Patient, after three weeks of diminished suffering, was permitted to sit up, and in another was returned from a private institution where she had been placed, to increase chances of recovery, to the original habitat. Here she was immediately, in her enfeebled condition, set the task of scrubbing, with cold water, tin utensils. The condition of the endometrium I do not know, neither do I know whether it had received any special treatment; but certain it is that salpingitis promptly developed coincidently with the chilling. How this was treated I do not know; but in a few weeks I was asked to see the case, and found the left tube and ovary matted together with inflammatory deposit, and the patient suffering intensely. A second operation was decided upon, and when the abdomen was opened it was decided that the pyosalpinx could not be removed. Patient recovered from this, and was discharged. Having no home, friends secured a residence, where for weeks she suffered from increasing fever and repeated attacks of pelvic peritonitis. She applied to me, begging that an operation be tried, and in April of 1888 a third laparotomy was done, and the specimen here shown removed. Indications demanded drainage: The tube (glass) was allowed to remain five days. The site of tube failed to heal, and an abdominal fistula was present. This received all sorts of treatment with no relief. Circumstances resulted in her entering the Pennsylvania Hospital, where as many opinions and plans of treatment were adopted as there were physicians. Some blamed the long time which the tube was allowed to remain, others suggested that silver wire was left in abdomen, a few believed carelessness in antisepsis to have been the cause, and so on *ad infinitum*. Finally the patient was discharged, and existed with this painful complication until December of same year when, worn out with suffering, and prevented from supporting herself, she submitted to a fourth operation. The fistula was, under ether, explored and found to be a Y-shaped channel, the stem of which traversed the space between the peritoneum and transversatis fascia, and led to the seat of original disease. This greatly surprised me, as I certainly expected to find it due to the extensive manipulation in the third operation. The arms of the fistulous tract extends along the cicatrix, upward toward umbilicus and downward toward pubis. This whole tract was thoroughly explored and scraped. At the base of the stem there was a small piece of sponge, probably there from treatment of the external orifice, having worked its way down. In addition to this was a suppurating granular surface which was all removed with a curette. The result proved that the fistula was due to a suppurating surface, as after removal of this it promptly healed. This fistula then was not due to a too long use of drainage-tube; and this important factor in

treatment should not, from the extremely narrow ground of a single case, be undervalued and hastily condemned. Since this case, I carefully explore fistulous tracts,have had two, and find the condition due to a suppurating surface, which has either been left at time of operation or subsequently developed. Let not the drainage-tube receive the censure which frequently belongs to a hurried, or perhaps incomplete operation. Where no such conditions obtain, I have yet to see a fistula result from a tube. Now as to the pathology. That gonorrhœa played an important role cannot be questioned; but when the proposition presents, whether the healthy tube and ovary, under similar conditions, should be removed, certainly such a case as this one can not supply positive evidence, for too many influences of unknown power exist and invalidate any conclusion, whether pro or con. It is this perplexing condition which determines me to report the case, and have an opportunity of listening to the opinions, as above facts moved them, which this society may offer.

Dr. H. A. Kelly.—I think that this is quite a remarkable case. I do not know of a parallel one. Both the operator and the patient are to be congratulated on their courage. The treatment of fistula is an important matter, and is one which every abdominal surgeon will have to consider at one time or another. It is impossible to have a large series of cases without meeting with some which require drainage, and where, if it be an abscess, the septum between the abscess and the rectum is very thin. It is impossible to prevent the formation of a fistula by the subsequent breaking down of that septum. I have seen several such cases. They have all run a more or less protracted course, but in the end have gotten well. In one case I had a ureter cyst, due, I think, to puncture of the ureter by the needle used in passing a deep suture in the floor of tne pelvis. I have known of cases of infection of ligatures from a tube left in for a protracted length of time. I do not say too long, because it is often necessary to leave the tube in for a long time. I have frequently had ligatures sent to me by patients. In all these cases the fistulæ which have persisted for weeks or months have healed when the ligature has been rejected.

Dr. Longaker.—I wish simply to emphasize the point that the drainage-tube is not always the cause of fistula. In one case in which the tube was kept in only thirty-six hours, there is still a fistula; the operation was done four months ago.

Dr. J. Price.—I cannot permit the statement of a member of the Obstetrical Society, that he has repeatedly had litagures returned to him by patients, to go out without a remark. Such has not been my experience, and I think that it has not been Dr. Goodell's. I should like to hear from him on this point. I have never had a ligature come away. The ligatures used are often too large. Such a ligature is dangerous, because its size prevents good tying. I have before called attention to the fact that it is common for patients to die of hemorrhage. Almost weekly we have in this city patients dying on the table, or shortly after the operation. Deaths from hemorrhage are exceedingly common, and in many cases the hemorrhage is due to a large ligature. Where the patient does not die the ligature almost always comes away. In one case, where the patient had suffered for a long time, Dr. Penrose reopened the abdomen, and found an enormous ligature tied with enormous knots. The patient had submitted to a number of operations for the relief of a fecal fistula. If sufficiently small and well tied the ligatures should never come away. I have had a large experience with unhealthy conditions in the pelvis, and have never had a ligature come away, nor have I had fecal fistulæ or fistulous openings. Nor have I ever had a ligature sent me by a patient after recovery.

Dr. J. M. Baldy.—I think that Dr. Kelly did not say that all fistula cases were due to the drainage-tube. I believe that many cases are due to the tube. I do not believe that it is always the result of previous infection of the ligature. I have used the same ligature from the same reel on two cases within fifteen or twenty minutes of each other, and in

one case fistula occurred, while the other patient made an uninterrupted recovery. The one with fistula had a drainage-tube used, and the other did not. In regard to large ligatures, I do not believe that such a ligature as Dr. Price exhibited at the County Medical Society is necessarily the cause. In a number of cases I have used this large plaited ligature. In none of these cases was there any accident whatever. I have had three fistulæ. Two followed supra-pubic hysterectomy, and a third was a case in which I assisted Dr. Weeks. It was a case of abscess requiring prolonged drainage for three or four weeks. I referred to this case in my paper a few weeks ago. Since that time a ligature has come away. The ligature is of the smallest size that can be used. The ligature was tied with the Tait knot, and shows the three loops very distinctly.

From the fact that I have used large ligatures with no accident, and have met with fistula after the use of a small ligature, and again using the same ligature on two cases side by side, and having fistula in one and not in the other, leads me to think that it is not the fault of the ligature. I think that we must look for other causes; I believe the tube is one of the most prolific of these causes.

Dr. William Goodell.—The subject of fistulæ following laparotomy is a very perplexing one to me. So far as I recollect, I have never had fistula after oophorectomy. All of the fistulæ have occurred in the bad cases of ovariotomy and intra-ligamentary cysts. As Dr. Kelly remarks, I do not see how it is possible to avoid the occurrence of fistula where you have a tumor closely fastened to the rectum. I have had a patient return me two ligatures. This was in one of my early operations, an oophorectomy done per vaginam. An abscess formed and the two ligatures were thrown off. I have, on several occasions, fished ligatures out of a fistulous track, and thus cured it. I am satisfied that one patient on whom I performed ovariotomy a year ago, and who, suffering from a fistula, has a ligature at the bottom of the track.

I am so sure that the drainage tube plays an important role in many of these cases, that I always deem it a misfortune when I have to leave one in for any length of time.

Over a month ago I operated in a neighboring city on an ovarian tumor. It was a case of malignant cyst, and all of the abdominal organs were infected with papillomata. I removed the tumor, which was a large one and colloid in its character. On the right side I found a papillary mass involving the tube, ovary and womb, which I made no effort to remove. A glass drainage tube was put in, and kept in for a week. I then suggested to the physician in charge that a rubber-tube be substituted. Yesterday I received a note from him stating that there was evidently an urinary fistula. But I think that the tube in this case had nothing to do with the formation of this fistula, and that the opening into the bladder is the result of the extension of the diseased cancerous mass in the right groin.

I have not had a large number of fistulæ, but all of them have given me more or less trouble. I have a fistula in a case in whieh I removed an intra-ligamentary cyst some time ago. I have in vain tried to heal it. But the patient is in good health, although she menstruates through the fistula. I do not think that in this case or in others the fistula is attributable to the setic condition of the ligature nor indeed to the size of the ligature. Yet I am averse to large ligatures.

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During the last half of the winter, 5,666 students of medicine were received by the various faculties of the Austro-Hungarian Empire. As the total number of students of all kinds was 13,806, this represents a percentage of 45 for our profession. In Italy at the same time there were 5,495 medical students.

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M. Sanchez-Toledo has recently reported the result of a series of experiments on Guinea pigs, performed with a view of ascertaining whether the mother can transmit tuberculosis to the fetus in utero; all were negative.

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## ORIGINAL ARTICLES.

### A BRIEF ANALYSIS OF NEW CASES OF CHOREA.*

BY FRANK R. FRY, A.M., M.D.,
Prof. of Anatomy and Clinical Lecturer on Diseases of the Nervous System in the St. Louis Medical College, St. Louis, Mo.

A very prominent English neurologist in presenting a recent paper on chorea, dealing especially with the causal relation between this disease and rheumatism, remarked that he felt no necessity for apologizing for bringing again so trite a subject to the attention of the London Neurological Society. The said paper was discussed with much enthusiasm by the members of said society.

If I were about to read a paper on this subject I would appeal to the above facts as a defense against those who might feel disposed to accuse me of dragging out something quite hackneyed. However, I realize that this matter has an unusual interest to the English profession in that it has of late years so largely assumed a position concerning the etiology of chorea which it has had much trouble in defending.

In a paper read at the meeting of the Mississippi Valley Medical Society in 1886, I divided those insisting on the causal relation of rheumatism to chorea into three classes. I think it still a fair statement of the situation. It is as follows:

First, those who believe that rheumatism, from the fact that it is very often followed by anemia and a debilitated condition of the system, becomes thus a frequent predisposing cause of chorea; secondly, those who believe that there is a more intimate, but as yet undiscovered, relation between the two affections. The following quotation from a recent clinical lecture by Prof. Da Costa (reported in the *Phil. Med. Times*, vol. xvi, p. 312) is a fair statement of their position: "The association of chorea with rheumatism is too close a one for us to regard it (here) as a mere coincidence. You can generally trace in a case of chorea a strong rheumatic element, either inherited or acquired." Also one from Dr. James Ross, Eng. (His new work on Diseases of the Nervous System.) "That some causal relationship exists between articular rheumatism and chorea has been known since the beginning of the century, but the true nature of this relationship has not been accurately ascertained." The third class of those who adhere to the causal relation of rheumatism to chorea, embraces those adopting the embolism theory. The original position of this class is thus stated in a quotation from Dr. James Frederick Goodhart, Eng. (His work on Diseases of Children.) "The constancy of these little growths upon the edges of the valves of the heart (observed in fatal cases) has led to a very direct, simple and fascinating pathology for chorea, in the suggestion that it is due to embolism. The vegetations are, it is supposed, washed off the valves, carried into the smaller arteries, and thus produce local anemia, malnutrition and degeneration of the cerebral cortex and ganglia, which leads to loss of control over the muscles."

The best brief resume of the opposition argument that I have even seen is to be found in a recent paper (*Med. Times*, Feb. 15, 1889) by John Ford Barbour, M. A., M. D., Lecturer on Nervous Diseases in the Hospital College of Medicine, Louisville, Ky. I quote it here:

"The relation of rheumatism to chorea is

*Prepared to be read at the Mo. State Med. Association.

still doubtful and rests chiefly upon the authority of the English school. In 11,500 cases in the children's hospital under See, there were 48 cases of rheumatism without chorea, which does not look as if the connection between the two were very certain. It should be borne in mind, too, that See is a strong advocate of the causal relation between them. Many of the statistics gathered under the domination of this theory cannot be received at par for the reason that heart murmurs and joint pains were regarded as sufficient evidence of the existence of rheumatism. Whereas we now know that many of the heart murmurs in chorea are hemic or choreic, the latter being probably due, as Woods suggests, to 'the irregular contractions of the chordæ tendinæ, preventing the proper closure of the valves.' Joffroy and Saric regard the joint pains as 'choreal arthropathies of nervous origin.' Hammond states "that the influence of rheumatism upon chorea is no greater than that of a depressing agent to the organism." Steiner, of Prague, found only 4 out of 252 cases of chorea which could be traced to rheumatism. In 219 eases of chorea treated in the Hospital for Sick Children, London, there was a rheumatic history in 20 per cent; but 15 per cent of all children have rheumatism. Sinkler found a clear history of rheumatism in 37 out of 279 cases.

If rheumatism occupied a causal relation to chorea, then chorea should occur oftenest at that period of life when rheumatism is most prevalent, but such is not the case. Out of 282 cases of chorea reported by Sinkler, 217 occurred between the ages of 6 and 15. Of 191 cases in the hospital for children at Paris, 151 occurred between 6 and 15 years of age. In Guy's Hospital, Pye-Smith found, from 2 to 15 years old, 111 patients; from 16 to 38 years old, 25. On the other hand, in 4,908 cases of rheumatism admitted to St. Bartholomew's Hospital, 8.1 per cent occurred between 10 and 15, as against 80.5 per cent from 15 to 45.

Nor do we find chorea most frequent in localities where rheumatism most prevails. The investigations of Hirsch and Weir Mitchell show that chorea is no more frequent in cold climates than in warm, which cannot be said of rheumatism. Rilliet states that acute articular rheumatism is of unusual frequency in Geneva, while chorea is very rare. Not one of his choreic patients had had rheumatism. Further, that chorea attacked girls oftener than boys in the proportion of 2 to 1, the reverse of which happens in rheumatism. He considers the rheumatic nature of chorea as absolutely undemonstrated. Romberg denies any dependence of chorea upon heart affections. Wunderlich considers the so-called

| Case—No. | Age—years. | Sex—*Male; †Female. | Number of Attacks | Rheumatism in Subject. | Heart Disease in Subject | General Physical Condition | Paralysis | Neuropathic Family | Rheumatism in Family—positively | Rheumatism in Family—doubtful | Surroundings | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 | * | 1 | — | — | Good | — | 1 | — | — | Medium | Recovery |
| 2 | 14 | † | 1 | 1 | — | Poor | — | — | 1 | — | " | " |
| 3 | 10 | † | 2 | — | — | " | 1 | — | — | — | Poor | " |
| 4 | 5 | † | 1 | — | — | " | 1 | ? | — | — | " | " |
| 5 | 26 | * | ‡ | — | — | " | — | — | — | — | " | No better |
| 6 | 19 | * | ‡ | — | — | " | — | 1 | — | — | Medium | Improved |
| 7 | 14 | * | ‡ | — | — | Good | — | 1 | 1 | — | " | " |
| 8 | 11 | † | 3‡ | — | — | Poor | — | 1 | — | — | Poor | ‡ |
| 9 | 7 | * | 3‡ | — | — | " | — | 1 | — | — | " | ‡ |
| 10 | 19 | † | ‡ | — | — | Good | — | 1 | 1 | — | Good | Recovery |
| 11 | 14 | † | 1 | — | — | Poor | 1 | 1 | — | — | Poor | " |
| 12 | 12 | * | 1 | — | — | " | 1 | 1 | — | 1 | Medium | ‡ |
| 13 | 26 | † | 2‡ | — | — | Good‡ | — | 1 | — | — | Good | Death |
| 14 | 5 | * | 1 | 1 | 1 | " | — | — | — | 1 | Poor | " |
| 15 | 12 | * | 2 | 1 | — | Poor | — | 1 | — | — | " | Recovery |
| Totals.... | | | 3 | 1 | | | 4 | 10 | 3 | 2 | | |

Average age, 13½ years. *Males, 8; †Females, 7.
‡See note on the case under head of "Remarks."

rheumatoid pains as eccentric projections of cerebral states. The only possible connection that can be traced between the two is the fact that they occur most frequently during the spring and summer months; which may be interpreted as simply indicating that the

same meteorological conditions which favor the development of the one favor also the development of the other."

With these few data as suggestive of my purpose in the present communication, I offer a very few cases of chorea reported in tabulated form. Permit me to state in explanation of the small number of cases that when I began to think of preparing my list two weeks ago I found that my most valuable clinic record book was missing, containing the greater portion of properly recorded cases of chorea that have been treated at the dispensary of the St. Louis Medical College for several years past. In tabulating my cases I have tried to introduce enough items to make the table as it reads, and a few brief remarks on some of the cases, an apparent and full enough analysis to save the necessity of an exposition of it in order to arrive at an opinion as to its showing. I will simply state that the cases here reported were carefully examined, studied and recorded.

REMARKS.

In recording the general physical condition in the table, reference is had to the time of first seeing the patient.

CASE 5.—Patient stated that he had had chorea ever since he could remember. He was intelligent but knew little about his family history beyond his immediate relatives. I do not think it was a case of hereditary chorea.

A remarkable feature of the case was a decided choreic movement of the muscles of the ears. The movements were not due to action of the occipito-frontalis muscle.

CASES 6 and 7.—In both instances the patients had had chorea almost constantly for two years.

CASE 8.—This patient came to the dispensary three succeeding falls, with attacks of chorea. Each time she was in a run-down, debilitated state. The first two seasons she improved rapidly with arsenic and iron. The third season she returned with slight chorea and in an apparently better condition than in the previous seasons. Within a few weeks she became rapidly paralyzed in all her extremities, being for several weeks unable to move any of them, confined to her bed. She made a tedious recovery. Sensory and electric test revealed the fact that the paralysis was due to multiple neuritis. As to the cause of the neuritis, I have no special theory. It could hardly have been due to the arsenic, for she had taken little compared with what she had previously, and only for a short time.

CASE 9.—Brother of Case 8. He visited the dispensary for three different seasons, either at or about the same time as his sister, their attacks beginning and lasting almost simultaneously. He always appeared in the same anemic debilitated condition as his sister. On their first visit their father stated that he had been obliged to leave them entirely to the care of a hired housekeeper who, he discovered, had not only neglected to supply them with proper food and clothing, but had also abused and frightened them. I thought we had a ready explanation of the chorea in these facts. They returned in just as bad a condition the following season, although the father said they had been well cared for.

CASE 10.—This young woman had had chorea for nine years, sometimes quite severe for several weeks or months at a time, sometime only slightly on one side, but constantly. Otherwise she seemed to be a perfectly healthy person. Arsenic, strychnine, etherization of the spine, etc., had no appreciable effect on the disease. There was some slight irregularity in menstruation. I found the region of the ovaries slightly tender (no vaginal examination was made.) After the use of moderate doses of bromides and ergot, and the constant current, in a mild form, with the positive pole on the spine and the negative on the abdomen over the ovaries, for a short time there was a remarkable improvement. The chorea soon disappeared entirely for the first time in nine years. Coincidently there was an equally remarkably change in her disposition. She became mentally and physically much more active, took a lively interest in society and other matters towards which she had previously been rather

indifferent. A year and a half after I last saw her I learned from her mother that there had been no return of the chorea and that she was constantly in excellent health and spirits.

CASE 12.—I first saw this patient in Jan. 1888. His chorea had been noticed two weeks previously and rapidly got worse. He had a severe general chorea, was constantly hurting himself from falls and from striking his extremities against hard objects of furniture, etc. He was almost constantly delirious, often violent. I occasionally found him with slight fever. The usual remedies, including chloral, bromides and hyoscyamine, (the latter in full doses of Merk's preperation hypodermically) arsenic, etc., occomplished little. I got better effects from morphine than any thing else until I gave him full doses of quinine when he promptly improved and recoved under its use, combined with strychine or or nux vomicia in small doses. I was led to give the quinine from the fact that his younger brother was taken with a tertian malaria during the time that I was having so much trouble in controlling the choreic patient, quinine cured the malaria in about ten days, and the chorea almost as promptly.

CASE 13.—A case of violent hemi-chorea in the eighth month of pregnancy. The paroxyisms were always benefited by galvanism. She passed into other hands, labor was induced, and she died.

CASE 14.—Came with a lively chorea. Within two weeks of the first visit he had an acute attack of rheumatism, in the height of which he broke out with a skin eruption which Dr. Joseph Grindon pronounced to be unmistakable chicken-pox. A pericarditis rapidly developed from which he died.

CASE 15.—Rheumatisn (polyarthritis) of all the joints of the extremities, supervened in course of the chorea, lasting some five or six weeks, confining the patient to bed for about one week. The action of the heart was for some time rapid and weak. There was a heart-murmur that lasted for two weeks and disappeared altogether.

The records of cases 14 and 15 are in the lost clinic book above referred to, and the notes here are made from memory.

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## SOME RECENT ADVANCES IN GYNECOLOGY.

BY FRANK A. GLASGOW, M.D., ST. LOUIS.

Read before the Missouri State Medical Association, May, 1889.

GENTLEMEN: This paper is not intended as a complete review of recent progress in gynecology, but as merely an abstract, viewed from my own standpoint, of the general tendency of progressive gynecology.

Gynecology of the present day is preeminently surgical, perhaps too much so. The journals and society proceedings report one endless train of surgical operations. Far less frequently do we find other therapeutic measures, such as our predecessors made use of often advocated. These old fogies, as they are often termed, have retired before the brilliant results of surgical procedures.

The student is often not taught the utility of cupping, leeching, blistering, bleeding and much of the general application of therapeutics to gynecology. I think that this is a mistake. It may be well to inquire why this condition prevails.

A gynecologist's duty is to avoid an operation if by other measures it is possible to make a patient comfortable and fit her to fill the duties of her station in life. There is no doubt in my mind that the choice of an operation must often be decided by the financial condition of the patient, or the opportunities which offer for taking care of a patient during a long course of expensive treatment.

That the Wier Mitchell method of treatment is excellent few will doubt, but in what a small proportion of cases is it possible to carry it out! Unless the patient is very wealthy it would be folly to recommend it. Where the patient is poor, where she is compelled to earn her living, where she cannot be taken care of for the rest of her life, an operation is often justified, nay, demanded, where, under other circumstances, it should

not be thought of. This factor in the selection of an operation one often forgets. We look at the practice and the brilliant results attained in the great charity hospitals, both of this country and the old, but we should not apply this same treatment without modification to private practice.

Most of the men who assume the role of instructors are connected with such institutions, and their practice is influenced thereby.

This may explain the extreme surgical tendency of the day. These same teachers warn the general surgeon against too frequent application of the knife, when they themselves are held by all to be the rashest of all operators. Often the advice is prompted by honest conviction; often, I feel certain, by love for the almighty dollar, as they add that such cases should only be operated on by one peculiarly skilled in such cases, by inference, themselves. "No one should operate who has not had extensive experience." If this rule were followed strictly, the present race of gynecologists would grow fat and prosper, but when they were gone, what would the next generation of humanity do, as there would be none to succeed them?

There is one question which concerns every surgeon and on which the success of his operation will depend, and that is the choice of sewing or ligature material. There is a growing distrust in catgut, even the best brands often growing septic or melting down too early. There are many formulas for the preparation of gut, but what means have we of knowing which are best? Is it not to be supposed that the manufacturers should be able to supply us as safe an article as we can prepare ourselves? And still it fails. Some few surgeons prepare their own catgut; some have deserted it for silk. This latter is certainly at present our most reliable material. Silk-worm-gut has advantages for special purposes, but is not so generally useful. Silk we can prepare extemporaneously by boiling in strong carbolic acid. Tendon ligature is open to the same objections as catgut; besides it is not easily procurable. Silk is more generally used now for buried sutures than formerly.

In regard to operations on the perineum: I will not state that there has been no new method advocated, for almost every operator has made modifications or variations of some of the methods described in the text books, which he considers his own special device. It is getting to be the fashion to contend very loudly for the honor of priority. Why, one of our Eastern confreres is attaching his name to the shoemaker's stitch, which was probably made use of by Adam or his immediate descendants!

There have been very material advances made in regard to the operation in two different directions: First, in a more conservative method of denudation, and secondly, in a more perfect coaptation of the denuded surfaces. The wholsale cutting away of vaginal mucous membrane is not so general now as formerly. The contractility of redundant mucous tissue is now taken into consideration, and it is spared. An operation for incomplete laceration now very generally performed is to dissect off the vagina or vaginal mucous membrane, from the rectum and fascia at the sides, and push it forward, letting the redundancy take care of itself; or we may sew the under surfaces together. This redundant material may serve a useful purpose by filling the vagina and holding up the bladder. One writer calls attention to the necessity of separating the vagina proper (not merely the mucous membrane) from the rectum, in order that we may get the ends of the transversus perinei and the lateral fascia on either side back to their original position, without having a piece of vaginal tissue intervening.

Theoretically, this is perfectly correct, but practically one finds that the septum is often so thin that the most that he can do is to keep from buttonholing either mucous membrane. Some of the older methods of denudation are also yet much used, but I predict that in a few years, except in very excessive redundancy, the vaginal mucous membrane will be preserved intact in perineal operations.

The second direction in which we may notice advance is in the coaptation of the denuded surfaces. The unscientific bunching together of the tissues by the deep perineal sutures is going out of use, and the more accurate union by buried sutures is generally employed. In this way we are absolutely certain that the tissues from above have not been dragged down between the lateral fascia, the very portion which we wish to unite. By this method we can make a perineum as wide and thick as we desire.

The style of buried suture every operator will probably choose for himself. My own preference is for the single interrupted catgut suture. I have found it less trouble than the continued suture, and I believe that it holds the parts better in contact. You do not have to see that the gut or thread is always kept taught when introducing a new stitch.

In complete laceration extending up the recto-vaginal septum there seems no better operation than splitting the two flaps, then sewing the rectum first, then finishing the operation as for an incomplete laceration. The rectum may be sewed either by the interrupted suture tied in the rectum, or by the buried suture not appearing in the rectum.

In the treatment of fistulæ, vesico-vaginal or recto-vaginal, more attention is being paid to the preparatory treatment. Dilatation of the vagina with glass or rubber plugs, or stuffed bags of oiled silk, is freely used. The flap-splitting, so ably advocated by Tait, is here used with much success. The older method of vaginal denudation still holds its own.

In regard to the repair of cervices there is nothing new, except that I should mention that there is one prominent writer on gynecology, not living at present in this country, who is trying to convince the profession that there is no benefit to be derived from sewing up a badly torn cervix; that it is better to have a woman come to your office every other day or every few days, for months together, rather than restore the cervix to its original condition. If I may judge from his article, he rather thinks that a laceration is an improvement on nature. This great authority admits that he has no experience in regard to repairing the cervix. Gentlemen, I mention this in order to show that all gynecology is not progressive. Who, nowadays, can doubt the benefit to be derived from sewing up a badly torn, everted, suppurating cervix?

In the treatment of epithelioma or cancer of the cervix the war between those in favor of total extirpation and those for high amputation of the cervix still wages. Those in favor of total extirpation seem to be gaining ground. The adoption of the clamp or forceps for compression of the broad ligaments, instead of ligating them, seems to have aided them very materially. It shortens and simplifies the operation very much and hence should lessen the chances of shock. Some claim that the use of the forceps is followed by more shock than that of the ligature. I doubt this statement very much. National prejudice, I am sorry to say, often influences men in the choice of an operation or procedure. The application of the forceps is much advocated and perhaps originated in France, hence there is little likelihood of our German friends taking kindly to it. We, here in America, are cosmopolitan, and choose what we consider best wherever we may find it. I think that the forceps, instead of ligation, is destined in the operation to be far more extensively used than at present. It is an operation which requires less skill and experience in operating in these parts than the other.

The high amputation is not by any means given up. It numbers among its advocates some of the ablest men in the profession. It is a far bloodier operation than that for extirpation, but the danger is not so great. The mortality in total extirpation in the hands of a few very experienced surgeons has been reduced very low, 9 per cent, I believe, but this cannot be hoped to be attained by the great mass of the profession, with their limited opportunities. The mortality for high amputation remains low even in the hands of those comparatively inexperienced. It is an opera-

tion which, in my opinion, for proper cases will not be superseded by total extirpation, however perfect the technique may become.

No special method of extirpation has been generally accepted as the best. All now are careful to ligate before cutting; some finish one side before attacking the other, neither retroverting or anteverting the fundus; others retrovert or antevert the fundus in order to get at the upper border of the ligaments. Some still close the perineum, while others merely stitch it to the vagina. All fasten the stumps of the broad ligaments in the wound. Silk or wire is, I believe, always used, and of course iodoform or bichloride gauze. The treatment by total extirpation has been extended by some wild enthusiasts to non-cancerous affections, as chronic endometritis, hysteria, hystero-epilepsy.

One German operator claims to have cured two cases of hysteria which had been treated previously ineffectually by the removal of the ovaries. This operator has operated twenty-five times for non-cancerous affections and not lost a patient. He says that the operation can be performed without danger if the peritoneum is stripped off from the uterus and not opened. I feel sure that we, in America, are not ready to approve of such practice.

The subject of metrorrhagia is now undergoing lively discussions in the various medical societies. I mean those cases where tangible disease of the uterus may be excluded. Some are of the opinion that tubal or ovarian disease is the prime factor, but in what this disease consists there is no unanimity of opinion. One authority claims that a varicose condition of the ovarian vessels disturbs the inhibiting power of the ovaries over the uterus, hence results relaxation and hemorrhage.

The question is still undecided.

Dr. Gehrung, of St. Louis, advocates restraining menorrhagia or even the regular meustrual flow when the patient's physical condition contraindicates the loss of blood. He does this by means of the vaginal tampon. This is rank heresy, but like most heresies, I believe there is much truth in it. Reeves Jackson seems to support his ideas, when he says that menstruation in itself does woman no good. This I do not believe, as I look on the regular monthly loss as an evidence of excess of vitality, above what the economy needs, which in case of need can be drawn upon.

In these cases of menorrhagia, hydrastis has been used by some with much success, when given in large and repeated doses. One writer claims to have suppressed the menstrual flow altogether.

In the treatment of endometrical diseases the curette has supplanted to a very great extent applications. Some are calling attention to the danger in using the curette.

Instrumental dilatation has, to a great extent, superseded that by means of tents or sponges. If we could readily procure a septic tupelo-laminaria or sponge-tents which are at the same time thoroughly impregnated with iodoform, we might still very often use them with advantage. They might be easily made and put up in parafine papers for sale.

*Fibroid tumors of the uterus.*—There is perhaps no one affection of the uterus of which the treatment in the past has been so unsatisfactory. We have in recent years been offered electricity as a cure or a palliative resource. It has certainly been demonstrated to the world to often do the first, and generally, when used with judgment and persistence, the latter. Tumors are symptomatically cured, if not removed. We should welcome even this as a boon, but, strange to say, the profession, with but a few exceptions, are very unwilling to admit that any good can be done. (They have not tried it, none of their immediate acquaintances have tried it, and they will not admit the evidence of some of the best men in the world in regard to it.) I think that electrical treatment has received less justice at the hands of the profession at large than is generally accorded to new methods of treatment. Electro-therapeutics is very loosely attached to general medicine and often leads to quackery; hence many members of our profession look on it with

suspicion. Let them acquire some knowledge of medical electricity (much is not required), let them procure an efficient apparatus and they will use electricity ten times on other cases to one on fibroids, and, furthermore, they will be pleased with its effects. Of late electricity has been identified with fibroids, but this does not imply that it is useless for other complaints.

To Apostoli more than any one else are we indebted for our knowledge of how to use electricity for the cure of fibroids. He has taught us that this agent is very like a combination tool, that is, you can get very different effects according to the manner in which you use it. I do not wish to write a thesis on electricity, but merely to call your attention to a deserving means of treatment.

I should naturally now refer to the surgical treatment of fibroids. Here we have many advocating the intra-peritoneal method of treating the stump, and others the extra-peritoneal. The Germans are firm advocates of the former, the English of the latter. Other countries seem not committed to either. The advocates of the intra-peritoneal method have certainly improved their technique during the past year or so. They now, after enucleation or amputation, bring the raw surfaces into accurate coaptation by buried and through-and-through suture; otherwise the operation is much as heretofore practiced.

In amputating of course a wedge-shaped piece must be removed. This certainly is a far more scientific operation than fastening the cervix by means of a clamp externally, but unfortunately it has not given as good results even in the hands of good operators. Since the intra-peritoneal method requires more skill and time for its performance and does not give as good results, we may expect the extra peritoneal operation to hold its own for some time yet. Some have advocated the removal of the cervix also in order to remove a source of danger and infection. This seems to me very rational, but as far as I know it has not been extensively practiced.

Extra-uterine pregnancy is responsible for much undignified discussion in the journals, between those holding that it is always primarily tubal and those denying this.

It makes little difference to the profession at large which party is right, as long as we are unable to find out during life which it is. The contending parties often cannot agree as to where the pregnancy originated, even after opening the abdomen. What should concern us most is how to relieve a woman from her perilous condition. The American method of destroying the life of the fetus by faradic electricity has given good results, and I believe with one exception with no bad results following. It is undoubtedly the safest for general use before rupture has taken place. Tait has demonstrated the frequency of this condition, and has shown us how to successfully remove it, after rupture has taken place. His success has been remarkable in removal, so he does not admit the utility of any other method.

The secret of Tait's success is celerity and audacity, combined with skill. He does not waste time in trying to still the general oozing of blood, which has caused many an operator to lose precious time without gaining anything therefrom. Tait goes straight to the fountain head and ligates the broad ligaments after which the hemorrhage ceases. He removes the sac and debris, washes out the abdomen, puts in a drainage-tube and closes the wound. It is rarely where there is any vitality in the patient at the time of the operation that he loses his case. I quote Tait because he has been identified of late with this operation, and has probably performed more operations for ruptured tubes than any other surgeon. No one can doubt the advisability of this operation after rupture has taken place.

The removal of the ovaries and tubes for salpingitis, pyosalpinx and various affections of the ovaries certainly requires no farther recommendation. There is probably no operation in gynecology which has done so much good; still, if reports are true, I am afraid that it is being overdone. Many able writers claim that a pyosalpinx can only be cured by removal of the tubes, but every gynecologist

must know that there have been cases where the tubes have discharged their contents through the uterus and a cure resulted. Packing the vagina has brought about a cure; so has curetting the uterus. The first probably by straightening the tube, the second by removing the obstruction at the uterine end. We sometimes see it reported that a tube discharged into the uterus while being removed. Perhaps in some cases our fortunate friends who catheterize the tubes may teach us how to let out the purulent mass.

I do not advocate a let-alone policy, but wish merely to suggest that laparotomy is not our only resource. Often the symptoms are due to peritoneal adhesions and not to a hydro or pyosalpinx. Here, of course, a single emptying of the tube will not cure. The technique of the operation for the removal of the tubes is now well known. Take away all of the diseased tissue possible, cleanse thoroughly; if the wall of an intestine is injured in removing adhesions, sew the serous surfaces accurately together with Lembert sutures. Drain. In spite of all precautions, fecal fistulæ, herniæ or peritonitis may result. We know that we can cleanse the abdomen thoroughly, even after fetid pus has entered it. In all abdominal operations the stimulating effect of hot water poured into the abdominal cavity should not be forgotten. It may save many a patient by tiding her over shock.

In simple ovariotomy there remains little to improve on. Some bring the peritoneum together over the stump, some cauterize after tying, some cauterize alone. All these ways are undoubtedly good. The use of the drainage-tube is as heretofore. More attention is paid to bringing the edges of the fascia in apposition by special sutures in order to guard against hernia.

Alexander's operation for shortening the round ligament has not become very popular yet. It has been much simplified and the technique improved by Kellog. He makes an incision, parallel to Poupart's ligament, one inch below the internal ring. He then nicks the canal for one-quarter inch, introduces a strabismus hook, and draws out the ligament. This he transfixes with silver wire and passes the ends of the wire upon either side through the fascia and skin. The redundant ligament is tacked down. Kellog uses only cocaine during his operation and so avoids subsequent vomiting and straining. This operation should not be depended on alone for the cure of prolapsus, retroversion or retroflexion. It is the non recognition of this fact which has caused it to suffer in reputation.

Another operation which is now coming into prominence is hysterrorrhaphy or sewing the body or cornua of the uterus to the abdominal wall. There have been various ways of performing this advocated. One is to attach the fundus uteri after laparotomy to the abdominal wall with a single catgut suture, another is to use several sutures. One way is to fasten the cornua or stump after excision of the ovaries and tubes to the abdominal wall. This operation, like Alexander's, is not very generally accepted. It is interesting to note that two cases of pregnancy following Alexander's operation have occurred, which were not followed by any ill results. I feared a bad result during pregnancy would follow in such cases, as I look on the round ligaments as stays, preventing the rotation of the pregnant uterus.

I should not close this paper without mentioning Schulze's method of forcibly breaking up intra-abdominal adhesions by bimanual movements without opening the abdomen. I think that this method will never be much used on account of the great danger of rupturing the intestine. It is very generally decried.

Massage should not be passed over in silence, but its utility is more general than special in gynecology.

Gentlemen, this paper may seem more garrulus than scientific; you may think that I started to build a mountain and have succeeded in raising a mole hill, but if that hill is large enough to draw your attention to anything which may have escaped your observation, I shall consider that my paper is not entirely valueless.

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## A DEATH FROM THE SUSPENSION TREATMENT.

That the modification of the suspension apparatus recently devised by Dr. A. B. Shaw, of this city, is a timely one, needed for the safety which it gives, aside from its other advantages, which are self evident, is shown by the following case related by "Le Practicien," May 6th, probably the first of the kind on record. A man æt. 40 years, ataxic for five years, having read an article in a medical journal on the subject of the suspension treatment of tabes, bought an apparatus and essayed to treat himself. The affection, in his case, had pursued a rapid course, and he was almost paraplegic, but his intelligence was unimpaired. He had his servant suspend him two or three minutes every day. The first seven séances produced the habitual amelioration; he became able to take a few steps and felicitated himself on his approaching recovery. At the end of the eighth seance, he lost the sense of hearing and the power of speaking or swallowing, but maintained sight, intelligence and movement. Dr. Callamande was sent for; he used revulsives, subcutaneous injections of ether, etc., but notwithstanding his efforts at reviving the patient, he continued to grow worse. On the evening of the accident sight was lost, and the paralysis rapidly invaded the arms and muscles of the throat, death intervening in 24 hours from suffocation.

The modification of Dr. Shaw, alluded to above, consists in a spring scale, like that used by butchers, capable of holding 200 pounds. This scale is attached to the rope which elevates the head. The patient is first lifted from the floor by means of a rope and pully, and straps underneath the shoulders; then the scale part of the apparatus is brought into play, gradually transferring the weight of the patient from his shoulders to his head, the amount of this weight and consequent tension on the spinal column being continuously registered by the scale, and regulated accordingly. Any degree of tension may in that way be used, and at the same time, the power of increasing or lessening it —of "cheating," for instance—is entirely taken away from the patient.

This addition gives that at which we always aim, but which we are so often unable to attain in our treatment—precision of dosage and relief from the influence of the whims or fears of the patient.

## COCAINE IN MINOR SURGERY.

In an article in the *Revue de Chirurgie*, Drs. Reclus and Isch Wall discuss the subject of cocaine in surgery, advocating its more general use than obtains with most surgeons. They account for the hesitancy with which it is employed on the ground that it is believed to be dangerous, inefficacious and inconstant in its effects; but they endeavor to remove these objections by citing their own experience with the agent in upwards of 300 cases, in which they have noted but very few instances of the ill-effects complained of every now and then, and these were transient. In four cases only were the symptoms serious, such as pallor, cold sweats, rapid pulse, dyspnea, dilated pupils, dysphagia, nausea, syncope, vertigo. But they question whether these, when present, may not be due, in part, to the pusillanimity or nervousness of the patient.

Illustrative of their methods, and of the cases to which it is applicable, we may mention the following: For the purpose of doing away with the sensitiveness of the pharynx in order to introduce a stomach-tube, they

paint the posterior buccal and pharyngeal mucous membranes with a solution of 10 per cent cocaine (5 per cent in young persons). An anal fissure ceases its annoyance and is cured by the insertion of a tampon of gauze soaked in the solution; and the same tampon will suppress in short order, the anal itchings which harrass the life of hemorrhoidal patients. Vaginismus is relieved in the same way. The authors even go so far as to claim that the performance of lithotomy is rendered possible by cocaine anesthesia. In operating on hydrocele, after the sac is emptied, a preliminary injection of cocaine renders the membrane insensitive to the tincture of iodine subsequently introduced. In serious cysts of the neck, spermatic cysts, and in synovial articular inflammations, where it is desired to wash with antiseptic solutions, the same procedure may be employed. To extirpate submucous cysts or adenomata, of the lip, for instance, it is recommended to insert a hypodermic needle into the neoplasm, expressing the fluid as it is withdrawn. Injections for removing epitheliomata of the lip should be made in the tissues just around them. Six injections, distributed equi-distant around the anus renders it possible to forcibly dilate that orifice without general anesthesia.

When an operation involves the skin, a point of importance is that the injection should be made, not in the subcutaneous cellular tissue, but in the derma itself.

The injections are equally serviceable in an inflamed condition of the skin as when it is healthy, robbing the incision of abscesses of many of its disagreeable features. The list of conditions in which cocaine may be used to advantage might almost be continued indefinitely. And yet, notwithstanding the uniformly happy effects which these gentlemen are able to report from their rather extensive experience with it, the fact remains that great care must ever be observed with it. Numerous cases are on record of serious, and sometimes even fatal accidents, which, from their repeated occurrence, can only confirm our fears that they are due to the drug, and not to nervous excitement or timidity on the part of the patient. An instance which recently came under our observation showed this clearly. A physician of undoubted nerve had a painful phlegmon on the back of his hand; after anesthetizing with cocaine, it was opened without pain, but pallor, faintness, tendency to syncope, etc., rapidly became so pronounced as to require stimulants, the physician at the same time being much disgusted at his apparent weakness.

A point to which the writers of the paper do not call attention, and which is of great importance, is that whenever it is possible in the use of cocaine, the part intended to be anesthetized should be cut off from the general circulation by a string or band, so as to prevent the rapid dissemination of the drug throughout the organism; moreover it conduces to more complete anesthesia with the use of much less solution. This is easily carried out in all operations on the fingers, toes, in fact all of the extremities—the penis, etc. The same object may be gained to a certain extent at other parts of the body by isolating the tumor or part to be cut by surrounding it with a metal ring, held down tightly by a bandage.

More than a grain of cocaine should never be injected subcutaneously unless the patient's responsiveness to the drug be known from previous tests.

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## A New Method of Administering Cod-Liver Oil.

The method of Lafaki of administering this disagreeable drug is mentioned in the *Lyon Medical.* If equal parts of the oil and lime water be mixed, a milky liquid is obtained, inodorous and of a syrupy consistence, which may be flavored as desired, for instance with essence of citron or vanilla.

The oil saponified in that way is said to be very agreeable to the taste, does not adhere to the walls of the buccal cavity, nor leave that nauseating after-taste which often prevents patients from retaining it even after it has been swallowed.

And in other ways the saponified oil pre-

sents advantages rendering it far preferable to the much vaunted emulsions of to-day. The saponification, instead of becoming altered with time, preserves, on the contrary, its homogeneity and lactescence; it is easily assimilable by weak stomachs; it may be administered even during a diarrhea; and it is a preparation easily and quickly made and at a price placing it within the reach of all—a consideration of no small importance when it is remembered that this treatment is generally one of long continuance.

### Gonorrheal Erythema.

In the *Annales de Dermatologie*, Dr. Paul de Molenes expresses his ideas concerning the eruptions which often occur in the course of gonorrhea, and which are usually attributed to the influence of copaiba or cubebs which the patient may have been taking. This mode of origin,the writer is disposed to question in the great majority of cases; although he does not deny absolutely the capability of these medicines to cause erythema, he thinks that it is manifested very rarely, and that such eruptions are really due to the gonorrhea itself.

He argues that the suppression of the cause should naturally be followed by the disappearance of the effect; that the duration of the roseola should be subordinate to the use of the medicament. But in numerous instances he has raised the dose of the balsams after the appearance of the eruption, and the result has been, not an augmentation but a recession of the lesion. And, on the other hand, in a case which lately came under his observation, the eruption presented all of the classical characteristics of so-called cubebo-copaibic erythema in respect to extent of involvement, seat, progress and duration, and yet the patient had at no time taken any medicine capable of giving rise to any eruption whatever. And when the erythema was at its height, Dr. de Molenes prescribed large doses of copaiba and cubebs, when the eruption soon vanished, to return no more, although the medicines were continued for five days.

### The Pediatric Section of the American Medical Association.

The programme of this department for the meeting at Newport as furnished by the officers, indicates that this will be one of the most interesting years in the history of the subject, and goes far to justify the wisdom of the associatian in creating a special section for the exclusive consideration of the diseases of children. A glance at the names upon the programme, which appears elsewhere in this issue of the Review, is sufficient to show that the Chairman, Dr. Jno. A. Larrabee, of Louisville, and the Secretary, Dr. Chas. J. Jennings, of Detroit, have been doing good work. They present strong arguments in the work in favor of the selection of active and energetic section officers.

It cannot be possible that the A. M. A. will favor taking a step backward at its coming session and remand the department of Pediatrics back to the Section of Obstetrics and Diseases of Women, as was contemplated by the amendment to the by-laws introduced last year.

Let us hope that the amendment will be voted down as it deserves to be.

The A. M. A. has ever shown a disposition to keep step in harmony with the progressive ideas of the profession.

A proper appreciation of the sentiment of the profession and the good of the association require that the Section of Diseases of Children be made a permanency.

### Programme of the Section on Diseases of Children, American Medical Association.

Fortieth annual meeting at the Cassino, Newport, R. I., June 25, 26, 27, 28, 1889. Chairman, Jno. A. Larrabee, M. D., Louisville; Secretary, Chas. J. Jennings, M. D., Detroit.

#### First Day, June 25.

1. "The Management of Infants During the First Year," by T. B. Greenley, West Point, Ky.

2. "Cow's Milk for Infant Food," by E. F. Brush, Mt. Vernon, N. Y.

3. "Summer Diarrhea and Dysentery," by N. Guhmann, St. Louis, Mo.

4. "Intestinal Diseases of Children during Hot Weather," by Peter Hooper, Philadelphia, Pa.

5. "Cholera Infantum, its Etiology and Treatment," by Steele Bailey, Stanford, Ky.

SECOND DAY, JUNE 26.

1. "Heart Failure in Diphtheria," by Geo. Wheeler Jones, Danville, O.

2. "Intubation of the Larynx, with Reports of cases," by F. E. Waxham, Chicago, Ill.

"Scarlatina," by C. R. Early, Ridgeway, Pa.

4. "Pathology and Treatment of Certain Complications of Scarlet Fever," by Talbot Jones, St. Paul, Minn.

5. "The Value of Hydrogen Dioxide in the Treatment of Diseases of Children," by Marcus P. Hatfield, Chicago, Ill.

6. "A Rule with Penalty in Public Schools," by David I. Booth, Sparta, Ill.

7. "Poliomyelitis Anterior Acuta," by S. P. Deahofe, Potsdam, O.

THIRD DAY, JUNE 27.

1. "Serious Abdominal Injuries of Childern, Resulting from Traumatism Seemingly Trivial," by I. N. Love, St. Louis, Mo.

2. "Visceral Neuralgias in Children, " by J. C. Wilson, Philadelphia, Pa.

3. "Atrophine in Eneuresis," by Wm. Perry Watson, Jersey City, N. J.

4. "Adherent Preputium Clitoridis as a Cause of Chorea with a Report of a Case," by C. Henri Leonard, Detroit, Mich.

5. "A Further Study of the Cardiac Relations of Chorea," by Wm. Osler, Philadelphia, Pa.

6. "The Treatment of Heart Disease in Children," by J. A. Robison, Chicago, Ill.

FOURTH DAY, JUNE 28.

1. "The Physical Education of Children," by A. H. P. Leuf, Philadelphia, Pa.

2. "The Treatment of Tubercular Bone Lesions before the Joint is Invaded," by V.P. Gibney, New York.

3. "Notes on Surgical Diseases of Children," by Edwin Brock, St. Louis, Mo.

4. "Spine Fifida," by Norman Teal, Kendallville, Ky.

5. "Trismus Nascentiam," by A. V. Williams, Frankfort, Ky.

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## SOCIETY PROCEEDINGS.

### MISSOURI STATE MEDICAL ASSOCIATION, MAY 21st AND 22nd, 1889.

The President, Dr. A. W. McAlester, in the chair.

[CONTINUED FROM PAGE 640].

THREE CASES OF SUPPURATIVE APPENDICITIS,

By H. C. Dalton, M. D., St. Louis, Mo.

Not until within the past several years has this affection received anything like the attention it demands; so much, however, has been recently written on this subject, that much light has been thrown upon it, and I imagine that you are ready to aver that I could entertain you better by treating you to a few brilliant flashes of silence, but I will briefly relate the history of three such cases.

Case I. Suppurative Appendicitis—Operation—Fecal Fistula—Abscess of the Liver—Death.

This patient on entering the hospital gave a history pointing to some abdominal trouble, located more particularly in the right iliac fossa, where a tumor was to be found on examination. An incision was made over the caput coli, parallel with Poupart's ligament, and because of the absence of adhesions, the general peritoneal cavity was entered. After isolating the pus-sac from the intestines by means of antiseptic gauze, the patient was turned on his right side and the sac opened, washed and cleaned. Two or three sections of a tape-worm came away with the irrigating fluid, but the appendix was not found. After the operation the patient did well for eight days, when a fecal fistula made its appearance; and at the same time he did not appear to be so well, yet he did not complain of pain, and there was nothing to show why he was getting worse.

The post-mortem examination developed the fact that there was an abscess in the convex portion of the right lobe of the liver. No symptoms or signs had pointed to a liver complication before death. No connection was to be found between the original abscess and the one found in the liver, so that it must have been of metastatic origin. Had not this complication arisen, I think he would have recovered.

Case II. Suppurative Appendicitis—Gangrene of Omentum—Operation—Death.

This patient entered the hospital March 5, 1889—six days after the first appearance of his illness, which began with pain in his epigastric region. Constipation, vomiting, pain and tenderness over the abdomen were prominent. Septic peritonitis was diagnosed, its origin being doubtful. A median incision was made into the cavity, which was found to be full of pus, active and severe inflammation going on in the peritoneum. A piece of gangrenous omentum was found attached to the appendix, the other end floating free in the cavity. The former, together with the appendix, was tied off and the stump seared with a Paquelin cautery. The operation required one hour in all; the patient rallied only partially and died twenty-four hours later.

The post-mortem specimens shown here may be interpreted as meaning that:

When the ulceration through the appendix was taking place, the omentum became adherent to the site of the perforation; a pus cavity about an inch in diameter formed in the omentum. This in turn was perforated, letting the pus into the peritoneal cavity and setting up the peritonitis. I think I see where I made two mistakes in this operation. First, in taking out the intestines, and next in not irrigating the cavity with an antiseptic solution.

The following is perhaps the most extraordinary case on record. It is certainly one of the most unique cases I have ever seen.

Case III. Suppurative Appendicitis—Operation—Fecal Fistula—Abscess of the Liver—Discharge of the Gall-bladder—Recovery.

This patient had enjoyed good health until two weeks before admission, when he had a chill and fever. Diarrhea developed and continued up to the time of his entering. A large, indurated,very tender tumor was found in the right iliac region, which gave marked pain on examination. The finger in the rectum discovered some fulness toward the right iliac fossa, but no well developed tumor.

The operation was performed Dec. 1st, 1888. An incision about 6 inches long, parallel to and 2 inches above Poupart's ligament, evacuated about two ounces of pus. The appendix was adherent to the bottom of the wound and the other three-fourths of it was tied off. Two perforations were found in it about its middle. Two pieces of omentum, one an inch and a-half by two inches and another similar one, were found caught in the abscess cavity, both in a gangrenous condition. They were tied off from the sound tissue. During the examination of the cavity, or while swabbing it out, its limiting wall was sundered, and the general peritoneal cavity entered, which necessitated its being washed out. The stump of the appendix was burned with a Paquilin cautery. A large glass tube was allowed to remain in the wound, extending to the bottom of the pelvic cavity.

The patient stood the operation well, but 6 hours afterward I found him in a collapsed condition, pulse 160, temperature 106 F. He was perspiring profusely and breathing rapidly, the condition evidently being due to sepsis; stimulants being administered in large quantities, both internally and hyperdermically, the pulse and temperature were reduced in a few hours to nearly normal. On Dec. 11th an edematous swelling was noted between the 10th and 11th ribs in the right axillary line. The needle of an aspirator which was passed into the liver at this point, struck pus about two inches from the surface. I then passed a bistoury by the side of the needle, making a free incision and evacuating about one ounce of pus.

Seventeen days after the operation inspissated bile was noticed in the opening. On

the 23d day a piece of necrotic tissue, the size of a small hen-egg was removed from the pus cavity.

Dr. L. Bremer, who happened to be present at the time, examined it microscopically and pronounced it to be the entire gall-bladder. About this time a fecal fistula was discovered in the wound in the right iliac region. The patient was now much emaciated and a large amount of bile passed from the wound, and the fecal fistula also remained open. The stools were white, showing the entire absence of bile from them. After this the color of the feces became normal, the abscess of the liver disappeared, the flow of bile from it gradually diminished in quantity, and the fecal fistnla closed.

About April 1 both wounds were closed. At present the patient is entirely well, weighing about 150 pounds.

In this case nature has performed cholecystectomy by the suppuration process. I believe it is the first ever recorded in medical literature; at any rate, I have failed to find anything like it in the books accessible to me. The manner in which the event was brought about seems to me to have been as follows:

There was preliminary suppurative appendicitis; the pus containing the pathogenic microbes, perhaps the latter alone, got access to the veins of the mesentery, which, most probably, owing to their proximity, participated in the morbid process, or were opened during the operation. Through the portal vein the poisonous material was conducted to the liver, where, by metastasis, other abscesses resulted. A perihepatitis here must have caused an agglutination of the lower surface of the liver to the neighboring intestines, forming a sac which enclosed the gall-bladder. This was finally detached and discharged through the canal formerly established by the suppurative process. The sac formed previously by the lower surface of the liver and the neighboring intestinal coat, and containing, at that time, the gall-bladder and pus, probably represents now, after the recovery of the patient, the substiu te for the gall-bladder.

Discussion.

Dr. N. B. Carson, St. Louis.—It was my good fortune to be present at the three operations of Dr. Dalton, and to watch the cases afterwards; also to be present at the expulsion of the gall-bladder. It was certainly a rare and unique thing. The question came up recently whether it was possible to remove a gall-bladder with recovery of the patient. I think it can be done.

I will relate a case which came under my observation last year. I was called to see a case of supposed pelvic abscess. It was opened behind the peritoneum. Upon puncturing it with an aspirating needle, a quantity of fetid gas escaped, instead of pus. I packed the wound around the tumor thoroughly with antiseptic sponges, and enlarged the opening and got a small quantity of pus, and a number of small bodies about the size of a grape seed also came out. On introducing my finger into the cavity, I carried it behind the cecum, and I believe that the opening led from the cecum. The appendix was not involved in this case, and it was a case of cecitis. I am strongly in favor of early operations in cases of appendicitis, and yet I saw one case in which I was intending to operate, but thought I would wait for a day or two and see if the symptoms would not get better. Fortunately, they did so, and he recovered; but how few of these cases do recover without an operation! The case that Dr. Dalton reported is the only case that I have seen where the appendix opened into the cavity and the patient recovered sufficiently from the shock to justify an operation. They usually die before this.

Dr. Von Quast.—I would like Dr. Dalton to give his views as to the function of the appendix, and say how he is able to make a differential diagnosis between appendicitis and caecitis.

Dr. French.—The termination of the first two cases is usual; the termination of the other is unusual. The lesson to be learned from them is illustrated in the one in which timely interference provided for the escape of the sloughing tissue, which would have compro-

mised the life of the patient. We should operate in these cases, and we should operate early. The early operation when carefully performed under antiseptic precautions, is almost without danger; we can then be certain about the diagnosis.

Dr. W. A. McCandless.—The appendix vermiformis has been considered a very insignificant factor in anatomy, but it is certainly a formidable one in pathology. Seventy per cent of these cases which were formerly called perityphlitis are now known to be connected with disease of the appendix.

In reference to early operations, I have been with Dr. Dalton in these cases; it is not always possible to make a diagnosis, and sometimes perforation has taken place before you know that the patient is sick, almost. In the case which Dr. Dalton had, the cavity was filled with pus on the third day. In another case a man was going about the hospital with a perforation of the stomach, and he had had the ulceration of the stomach a long time before that even.

There may be a great thickening of the peritoneum and the perforation may not occur at the original site of the ulcer, but may burrow and open a considerable distance from its original site. It is so with all of these cases of appendicitis; that it is thickened and many times larger than normal. Thickening goes on and generally a minute perforation occurs and gives exit to the fluid; that was the case with Dr. Hodgen, who had a perforation of the gall-bladder. This process had been going on for years, and all around, the peritoneum was increased to many times its normal thickness. If at the time that the first perforation takes place, if that is called an early operation, then I advise early operations; that is when it should be made.

Dr. Carson.—Dr. McCandless says it is not always easy to diagnose these cases, that they are not always perforations that occur just at that time. If he will question these cases he will be able to diagnose the time of the perforation.

A man whom I know has had appendicitis for ten years and yet the perforation has only occurred recently.

Dr. Allen, Liberty.—I have seen one case of perforation, the result of the arrest and passage into the appendix of a cherry seed, that produced inflammation surrounding the appendix; at the end of ten days the patient recovered.

I desire to endorse the suggestion of early operation. Since the time of which I speak, I have seen as many as four cases in consultation, after the pus has burrowed into other organs, 2 into the rectum and 2 into the vagina.

In the post-mortem examination of one case which I saw, the pus had burrowed up to the diaphragm; in another,down to the pelvis, where it had shown a tendency to ulcerate into the rectum. Had the first one lived a few days longer the abscess would have burst into the lung or liver.

In connection with the subject of ulceration of the gastro-intestinal canal, from statistics of Guy's Hospital,it is a well-established fact that a larger number of well persons have chronic ulceration of the gastro-intestinal canal than we commonly imagine. In these the plan of early operation is the only one to be followed; but we have other abscesses resulting from inflammation of the connective tissue behind the sacrum. I have operated on two or three such cases with good results. So I do not believe that 70 per cent of these cases have originated in connection with the appendix—that is judging from my limited experience. Some of them may originate from dysenteric affections, the inflammation extending into the connective tissue and that form is most apt to point in the direction of Poupart's ligament. In the majority of these ulcerations after the formation of pus,there is one symptom that carries with it an indication of the condition present; that is the deformity caused by contraction of the psoas muscles.

In three cases with inflammation of the parts around the femur which I saw, there was this deformity. The first case fooled me, but in the next one I operated and was successful.

Dr. Dalton.—Dr. French referred to the

fact that we should report deaths as well as successes; I think it is only fair to do that. Out of four such operations I have had two deaths and two recoveries.

As to the function of the appendix, there is very little known on that subject. It is believed that the appendix gives a secretion which lubricates the cecum and facilitates the passage of its contents.

As Dr. McCandless stated, 70 per cent of these cases came from the appendix; Craft says the percentage is 71 1-10.

I think the use of the aspirating needle, in determining the presence of pus in suspected appendicitis, is attended with much danger of puncturing a gut.

As regards the preference between the use of opium and salines in these cases, I cannot see the point in giving opium where we have already a dryness of the alimentary canal. You give opium and you check up the secretions, but if you use saline cathartics you set up a flow in the glands and open up the pores, which acts as a local depletant, washing out the septic products.

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## THE OHIO STATE MEDICAL SOCIETY.

The forty-ninth annual session of this society was held at Youngstown, May 22, 23 and 24. The President, Dr. P. S. Connor, of Cincinnati, in the chair.

An address of welcome was made by Dr. John McCurdy, president of the Committee of Arrangements.

Officers were elected as follows:

President, Dr. John McCurdy, of Youngstown; First Vice-President, Dr. W. J. Conklin, of Dayton; Second Vice-President, Dr. A. W. Ridenour, Massilon; Third Vice-President, Dr. C. W. Tangeman, Cincinnati; Fourth Vice-President, Dr. J. E. Woodbridge, Youngstown; Secretary, Dr. G. A. Collamore, of Toledo; Assistant Secretary, Dr. E. C. Brush, of Zanesville; Treasurer and Librarian, Dr. T. W. Jones, of Columbus. Columbus was chosen as the next place of meeting, the first Wednesday in June, 1890.

Dr. E. S. Mckee, of Cincinnati, made his report as delegate to the Indiana and Kentucky State Medical Societies.

Dr. J. C. Reeve, of Dayton, presented a paper to the Ohio State Medical Society upon "The Early Diagnosis of Extra-Uterine Pregnancy." It was based upon a careful study and annotation of the symptoms present in a large number of reported cases, and was prepared with the object of directing the attention of general practitioners, into whose hands the majority of these cases fall, in order that relief may be afforded in time. The symptoms were individually considered and classified as: (1) Suggestive; (2) Presumptive; (3) Certain. By attentive study of these a diagnosis could generally be made, although in some cases the difficulties were insuperable.

The subject of treatment was only considered to show how the advocacy of different methods had led to undue depreciation of the possibilities of a diagnosis at an early period.

Dr. Orpheus Everts, of College Hill, Ohio, read a paper on "The Natural and Supernatural in Medicine." Dr. Henry S. Upson, of Cleveland, read a paper on the subject of "Localization in Diseases of the Spinal Cord." Dr. Rufus B. Hall, of Cincinnati, read a paper on "Abdominal Section for Inflammatory Diseases." Dr. J. A. Battles, of Youngstown, read a poem entitled, "The Physician and Surgeon," and was asked to write another one next year. "A Few Observations on the Etiology, Prognosis and Cure of Incipient Cataract Without Operative Interference," was the subject of a paper by A. R. Baker, of Cleveland. "Pressure as a Remedial Agent," was the subject of a paper by Dr. John McCurdy, of Youngstown. "Intestino-vaginal Fistula," was the subject of a paper by Dr. R. A. Vance, of Cleveland. "Trephining" by Dr. Geo. Goodhue, of Dayton. "Modern Theories of Tubercle and Therapeutic Tests" was the subject of a paper by Dr. H. J. Herrick, of Cleveland." "Chronic Painful Affections of the Throat," was the subject of a paper by Dr. Max Thorun, of Cincinnati.

These cases are usually very obstinate and

resist every treatment except that which is directed against the rheumatic diathesis. The symptoms are pain in or about the throat, in pharyngeal affections the pain is mostly located in the regions of the fauces and tonsils, and sometimes as far down as the hyoid bone. If the larynx is concerned there is localized pain in and around the larynx, the whole region about the larynx and the upper part of the trachea maybe painful to pressure,some tender spots are always present. The pain is intermittent and the patients suffer more during changeable weather. Locally there is more or less congestion, which is sometimes circumscribed and limited to small tender spots. In rare cases congestion may be absent. Neither ulceration nor swelling are found in the throat. The general health of the patients remains undisturbed, unless they suffer at the same time from other manifestations of rheumatism.

The diagnosis must be based on the history of the case. Sometimes a rheumatic sore throat is found in people who have never suffered from rheumatism, but in the majority of cases this disease can be traced among their former ailments. The treatment for this affection must be chiefly that for rheumatism in general; local applications may assist in the treatment, but can never alone affect a cure. Salicylate of soda, salol, oil of wintergreen, phytolacca and iodide of potassium are of special value. Sometimes hot applications, the faradic or galvanic current, are very effective in producing relief.

One case, a lady of pronounced rheumatic diathesis, was not amenable to treatment until she had spent several weeks at the Hot Springs in Mt. Clemens, Mich., whence she returned cured. Cronic rheumatic affections of the throat are found more frequently in men than women. Relapses are common.

Laryngeal Phthisis was the subject of a paper read by Dr. A. B. Thrasher, of Cincinnati. He said it is established beyond a reasonable doubt that at times this is a primary affection. While the rule remains that the lungs are generally affected either with or before the larynx, yet Demme's case has disproved the statistics of Heinze, as tubercular disease of the larynx, was found in death from tubercular meningitis. The special reason for invasion of the larynx was thought to be due to a weakened condition of the organ from abuse of the voice, either by improper method, over use, or by using the voice in a bad atmosphere. The theory of specific infection by the Kock bacillus would scarcely hold good as if the bacilli were inhaled the nasal mucous membrane should be more frequently affected. If it were exhaled from the lung or carried out in the sputa, the surface of the mucosa would be first affected while as a matter of fact the tubercular disease first began below the surface.

In uncomplicated cases, Dr. Thrasher thought the laryngoscopic examination would establish the diagnosis. Small, multiple ulcers with ragged edges, on the under surface of epiglottis, the edges of vocal bands or over the aryepiglottic folds on a pale odematous surface would mean tubercle. Pale thickening of the free edge of the vocal band or of tissue over the anytenoids, this latter assuming a pyriform shape, implies tubercle. In syphilis the ulceration is on the buccal surface of epiglottis, but one large ulcer, surrounded by highly inflamed tissue with involvement of cervicle glands. In cancer, one ulcer on the apex of a tumor, usually on the ventricular band, preferably the left one, with marked redness of larynx and pharynx.

The general treatment does not differ from that of phthisis pulmonum. Locally, lactic, chronic or acetic acid to the ulcers, or, preferably the galvano cautery. Cocaine, menthol, morphia by spraying solution in vaseline during inhalations. By these means the patient is able to take food, is freed from much excruciating pain which accompanies the last stages.

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"The Society for the Protection of the Victims of Medical Duty," is the latest on the list. Its home is in Paris, and it numbers among its members Dujardin-Beaumetz, Trelat, Bronardel, Monod, etc. May it live long and spread to this part of the country!

## SELECTIONS.

### THE QUESTION OF THE RADICAL CURE OF DEEP URETHRAL STRICTURE.

BY EDWARD L. KEYES, M. D., NEW YORK.

Gentlemen: It has seemed to me appropriate to lay this question before you that, by an interchange of experience, we may appreciate what views we, as a society, entertain in regard to it, and in how far the innovations in tne old operative method, which have of late appeared, promise to be of assistance to us in the future.

My remarks will be confined to organic stricture situated at and beyond the bulbo-membranous junction. Strictures lying in the pendulous urethra have been demonstrated to be capable of radical cure, chiefly by the unceasing and brilliant efforts of Professor Otis. I think that we may all accept it as a demonstrated fact that internal urethrotomy, preferably performed with the dilating urethrotome, will, if the incision be deep enough to extend entirely beyond the outer limit of the stricture-tissue, radically cure organic stricture of the anterior urethra. All honor belongs, in my opinion, to Dr. Otis for having been a pioneer in the demonstration of this fact.

For the deep urethra, however, we are still in the dark, and, notwithstanding claims which appear from various sources, no one is yet in a position to say what, if any, operation will radically cure deep organic stricture, while our daily experience demonstrates that after all operations a cure is usually maintained only at the expense of the occasional introduction of a dilating instrument.

In order to lead up to what I shall have to say later, I must introduce a few words of description here as to what I consider to be the three classes of organic stricture as they are clinically encountered in the deep urethra. They are: (1) The soft stricture; (2) the fibrous cicatrical stricture; (3) the inodular stricture.

1. By soft stricture I mean very superficial organic lesions, doubtless only involving the surface of the mucous membrane in the deep urethra, the underlying tissues being presumably free from anything more grave than congestion and spasm. I say presumably, because I have no pathological acquaintance with this stricture and only know it clinically.

Clinically it certainly is found. It follows gonorrhea—perhaps shortly, perhaps remotely. It is generally situated just at the bulbo-membranous junction. It is commonly accompanied by a moderate gleet as one of its symptoms. It yields in other respects all the symptoms of stricture, even to the causation of complete retention. It may not be possible to pass such a stricture with a whalebone filiform bougie used carefully for a long time, and yet a blunt steel sound of moderate size, held properly, will presently in many cases pass with a sudden motion through the obstruction and be grasped without withdrawal. Blood will often be found upon an instrument so passed.

If now a soft bulbous bougie, a little smaller than the sound, be carefully introduced, it will encounter the obstacle, pass through it after a little manipulation, and upon withdrawal the shoulder of the bulb will catch upon the obstruction and come through with a jump, demonstrating it to exist as a linear organic band. There will usually be blood upon the bulb.

Now immediately, one after the other, conical sounds of increasing size can be introduced, until an instrument as large as the urethra will take may be readily passed into the bladder—this all at one sitting.

This I call a soft stricture. You have doubtless all encountered it many times clinically. It is not ordinary inflammatory stricture; it is not simple urethral spasm. Both these elements generally also enter into it, and intensify it, but there is over and above a superficial linear, organic element, often involving, in my opinion, only the surface of the mucous membrane. The organic element is, I believe, very slight.

2. The purely fibrous cicatricial stricture is

the traumatic stricture as found in a urethra which has not been the seat of any gonorrhoeal inflammation. It may involve only the thickness of the mucous membrane or auy extent of the surrounding tissue, even including all the thickness of the perineum and the integument — the latter when the tramatism has directly involved the entire thickness of the perineum, or when subsequent suppuration has destroyed it, occasioned abscess, and burst or been opened externally. This stricture may also be inodular, or it may be devoid of this element and be a clean fibrous scar. It may be unattended by gleet. When such a stricture is inspected during perineal section, the mucous membrane in front of the point of stricture may be found quite healthy. The tissue cuts like true fibrous tissue, like fascia or tendon. The urethra behind is more or less dilated, its surface more or less catarrhal; there may be perineal fistula, but the hard, irregular, ill-defined, lumpy condition of the inodular stricture is absent. The fibrous stricture is linear or annular, but clearly defined.

3. The idodular stricture may exist after traumatism, notably in a stromous subject and where there has been considerable suppuration, perhaps burrowing abscess and multiple fistula. The inodular stricture, however, is found in its luxuriance in cases of stricture occurring after gonorrhea. Such a stricture is lumpy, irregular, ill-defined, tortuous—never linear. The inodular masses of tissure shade off more or less into the surrounding structures. The mucous membrane in front of the stricture, as well as behind it, is generally granular—catarrhal. Gleet is the rule; fistula may be present.

I have tried to give my idea of the types of stricture as encountered clinically. In speaking of the results of treatment I shall refer to them as the soft, the fibrous, the inodular stricture. More or less true inflammatory acute or subacute congestion and thickening may complicate all of them.

Does dilatation ever radically cure deep urethral stricture? That some deep urethral strictures become and remain permanently well after a course of progressive dilatation I believe, from my own experience, to be a fact. I have in my note-books a number of cases formerly treated by myself and by my late partner, Dr. Van Buren, which demonstrate the fact. In one such case, a very good one, which I give as a single example where the test of time was applied, a distinct stricture occasioning chronic gleet existing at $5\frac{3}{4}$ inches, in a man aged 21. The stricture took 14 F. bulb in 1869. I treated it for a number of months, curing the gleet, and passing, finally, No. 24. Then no instrument was passed for 12 years. In 1882 I treated the patient for syphilis. He was perfectly well as to his urethra and did not care to be explored, but I induced him to allow me to try his urethra with 24 F. steel sound. It passed without meeting any obstruction and was not grasped on withdrawal. The patient objected to my trying 28, which was painfully large for his meatus, but I have no reasonable doubt that it would have entered. I assert only, however, a maintenance up to 24, in a urethra which 12 years before had only taken 14, a perfection of function and a maintenance of cure for twelve years.

This however, was a soft stricture, and it is only in this class, in my opinion, that a radical cure is at all possible by dilatation. Even in the case of soft stricture relapse is the rule and cure the exception. I believe the difference to depend on the depth of mucous membrane involved in the organic part of the soft stricture.

I do not, from my personal experience, believe that a fibrous stricture or an inodural stricture is ever radically cured by dilatation. I do believe that many of them, of both varieties, may be raised from a small to a large caliber by intermittent dilatation and may maintain enough of that dilatation for a number of years without treatment to allow all the functions to be performed and to cause the patient to consider himself well; but the test of exploration in such a case will clearly show that, while the stricture may not have recontracted enough to occasion symptoms which attract the attention of the patient, yet

that it (the stricture) nevertheless exists and has very materially recontracted from the caliber at which it was left upon the cessation of treatment.

Therefore, in a general way, I think it proper to maintain that while it does all that is required in many cases, yet dilatation can only be counted upon to effect and maintain the cure of organic stricture at the expense of the occasional subsequent reintroduction of a dilating instrument for an indefinite period.

Does electrolysis ever radically cure deep urethral stricture? At the last meeting of this society, in Washington, I exposed my experiments with this method, and from the premises decided against it. I have nothing now to add, except that I believe electrolysis may sometimes cure a moderate soft stricture, just as dilatation does, and my impression is that it is in these cases the dilatation, and not the electric current, that does the work. I am willing to retract this opinion and to believe that electricity may do more when I have the demonstration. I am even willing to admit that possibly a very mild current may perhaps have some merit in overcoming the spasmodic element, in the case of soft stricture.

Internal urethrotomy might cure radically a deep urethral stricture of very moderate extent of the soft, or even the fibrous variety —but on this point I have no evidence to offer.

Does perineal section ever radically cure deep urethral organic stricture? Since the days of Syme, external perineal urethrotomy has been the operation of choice, often of necessity in serious cases, where anything like an attempt at radical cure has been aimed at—but experience has demonstrated that the term radical is not suited to this operation, since a cure must be maintained after it by the use of the sound. This is clearly the rule. I need not demonstrate it, I believe we all recognize it, and we all accept it without trying to explain the occasional apparent exceptions.

My attention has been attracted to some of my own cases, in which I see faintly a possible explanation of the different results that follow perineal section in different cases. I wish simly to raise the point, to call for the experience of others; and to watch more closely, in future—to see whether or not my impression is a correct one. It is quite certain that some strictures, when cut in the perineum, remain open for a much longer time and are much more easily maintained open than other strictures. In what, then, lies the difference? Surely it is not in the amount of cutting done. I cut one gentleman in the perineum entirely through all the urethal tissues up to the apex of the prostate, and forward entirely through the altered bulb, and then (the whole of the anterior urethra being contracted and indurated) I introduced a blunt, straight bistoury, and from the meatus to the continuation of the perineal wound I cut as freely as I dared through the whole length of the floor of the urethra—yet he relapsed. He had already previously been cut in the perineum externally by Van Buren and Gouley, and a number of times had submitted to internal dilating urethrotomy in the pendulous urethra. His strictures were fiercely inodular.

If, then, the difference of result does not wholly lie in the extent of the cutting done it must depend upon the quality of the tissues cut—and this is the distintion I wish to make.

I believe it possible that a purely fibrous stricture in the deep urethra may be radically cured by thorough perineal section, a result which, I believe, may not be usually attained in the case of inodular stricture.

Whether the gonococcus continues to live and thrive as a local irritant in the case of inodular stricture;

Whether a strictly and purely fibrous stricture can ever be other than a traumatic stricture in a healthy urethra;

Whether the inodular tissue can be wholly dissected out and thus leave a traumatic fibrous scar, properly severed by perineal section, to constitute a radically cured stricture, are questions for the future to decide.

My testimony on the subject is not extensive, since I have only quite recently begun

to think about the matter—but it is suggestive, and I will detail some cases. They are all taken from private life — no hospital material is used. I have selected a few instances which have not yet been so severly tested as I hope they may be after a longer time, the reason being that my attention was not directed to the investigation, and some of the earlier results that I now record were curiosities to me when I noted them. I did not attempt to explain them at the time.

Case I.—X., æt. 14, was found by me in March, 1873, in bed suffering lamentably from the effects of stricture with over-distended atonied bladder from which partly decomposed urine escaped only in overflow as the result of constant. painful, straining effort.

In the spring of 1871, two years before, he he had fallen upon a fence. I was told that a slough separated from the perineum after urinary retention of many days, both ends of the severed urethra being exposed in the wound. This wound contracted and the boy was cut in the perineum in Boston, but no instrument was passed through the urethra after the operation. After some weeks a catheter was tied in through the urethra, and was retained for three weeks. Later, sounds were induced a few times, the patient taking ether on each occasion—and then all treatment was suspended.

When I saw him only a filiform whalebone bougie would pass, the bladder was greatly distended, vesical tenesmus was excruciating, only a little urine coming away at a time in drops, the dribbling being constant, but accentuated by a maneuver which the boy had learned, namely, passing a finger into his rectum and scratching the anterior surface of the gut with his nail. In this manner he had produced a narrow crescentic stricture on the anterior wall of the rectum about an inch above the anns.

Upon a whalebone guide I freely incised the perineum through the scar left by the old incision. I found the stricture to encircle the urethra, to be very tight, fibrous, annular, with no inodular tissue about it. It was firm, narrow, purely fibrous cicatrix. I cut through it freely upon the roof as well as upon the floor of the urethra. Recovery was prompt and uninterrupted. The penis was small, and 21 French was the largest that I could get to pass the anterior urethra after incising the meatus.

After recovery No. 21 was passed into the bladder, once a week, for about a year, then less often until the intervals became three months.

In May, 1877, a little over 4 years after the operation, he left town and disappeared from view ; considering himself well, he passed no instrument whatsoever.

In May, 1878, 5 years after the operation, 1 year after the last introduction of any instrument, he reported well, and I introduced easily into his bladder No. 27 French, 6 sizes larger than the size he had been cut. He was not 19 years of age, his penis had developed, and the site of the stricture had enlarged along with the rest of the urethra. I have not seen him since.

Case II.—In October, 1883, I was called by Dr. Fisher, of Hoboken, to see a youth æt. 13. Two months previously he had fallen upon a fence and ruptured the urethra, while in the South upon a visit. The surgeon who saw him there failed to reach the bladder with a catheter, and therefore drew the urine with aspirator during 4 days. Perineal abscess formed. It was opened, but the urethra was not incised.

When I examined the patient no urine passed the meatus, but all escaped in a fine stream through a small perineal fistula as a result of repeated and very severe straining efforts.

Filiform bougies, after prolonged and patient effort, failed to engage at all in the stricture. The scrotum still bore marks of recent inflammatory action ; the urine was acid, 1.010, and contained pus and blood.

Aided by Dr. Fisher, I cut this boy in the perineum without a guide. The urethra was absolutely healed up to a point just within the membranous urethra — the strictured point. The stricture was cut cleanly through in the median line, upon the roof as well as

upon the floor. It was annular, circular, fibrous. There was no inodular tissue about it. The urethra behind the stricture was moderately dilated, congested on its surface, and showing a fistulous opening on the floor. This was opened into the original incision.

No. 19 French steel sound was the largest size that could be made to enter the anterior urethra after incising the meatus; the boy had not reached puberty and the genitals were rudimentary.

Recovery took place without accident, and then No. 19 French was introduced into the bladder once a week.

In December, 1885, two years after the operation, the boy called at my office for inspection. The penis had enlarged materially. Every urinary function was perfect, the urine bright and free from pus. No. 19 French had been regnlarly passed once a week, but no larger instrument.

Recognizing that the advent of puberty had enlarged the urethra, and wishing to test the site of the stricture, I gave the boy 21 French and asked him to pass it. It went easily, and he immediately followed it by a 23, which passed as readily as the 19, and was as large as the meatus would at that time admit. This proved conclusively that the anciently strictured area had increased in size uniformly with the rest of the urethra, and this without being dilated beyond the point to which it had been originally cut. It had increased four sizes in two years.

I ordered the boy from this date to pass 23 French into his bladder once a week. In Jnne, 1886, 6 months later, he again appeared, with a penis now slightly larger. This time, without trouble, No. 24 was introduced.

At the end of January, 1887, seven months later, he again called, and passed without difficulty No. 25, and then immediately No. No. 28 French was passed by me to test the urethra. It entered without encountering obstruction, and upon withdrawal was not grasped.

May, 11, 1889, 2 years and 3 months later, he again called at my request. He had introduced into his bladder a 28 French steel sound, once a week, since his last visit. He was now 19 years of age, 6 feet and 1 inch tall. His penis measured 3 inch in circumference. I passed No. 30 French into his bladder easily, yet it appreciated slight resistance in the perineum and was moderately grasped upon withdrawal. I then introduced No. 29 metalic bulbous sound. It passed easily; but on withdrawal the shoulder of the bulb was retained by the stricture at 4¾ inches, and a little force was revuired to pull it through. No blood was upon it. In short, here is a case in which a fibrous scar had increased in size, with the development of the genitals, 11 sizes (French) 5½ years. The scar is, of course, there, and always will be. How retractile it is I shall find out later.

Case III.—During nearly the entire year of 1887, I treated a young gentleman, æt. 25, for mild persistent relapsing gleet and irritable bladder—and failed to cure him. The meatus had been cut to 30 before the patient saw me, by another snrgeon, whose efforts to cure the gleet had been ineffective. The 30 would enter the bladder with difficulty, always bringing blood from a tight band just at the bulbo membranous junction. I tried to force a larger size, but only succeeded in lighting up a mild cystitis and aggravating the gleet.

This patient urgently insisted upon being cured, as he desired to marry. The gleet and presumably, the stricture were of gonorrheal origin. No irrigation, deep ureteral instillation, anterior injection, internal treatment, change of air, rest, diet, or the use of No. 30 sound did him any good—therefore I cut him in the perineum, severing the small linear band both on the roof and on the floor of the urethra completely. There was no inodular tissue. This I did in December, 1887.

One year later he visited me in my office, having passed no instrument for eleven months. He was fat and perfectly well in all respects, the urethra dry, the urine like crystal. I passed a No. 33 French steel sound. It entered easily, was not grasped on withdrawal, no blood followed.

This patient is now happily married.

It will be observed that in all these cases the stricture was fibrous, containing no inodular tissue. In two of them the cause was severe traumatism in young boys before the age of puberty, the urethra being uncontaminated by any previous gonorrhea. In the other, although there had been gonorrhea, the stricture had been moderate, narrow, dense, fibrous band, without inodular tissue.

I have no such good results to report of any inodular strictures I have treated; and my impression therefore is—an impression stated with a possible reserve—than when the stricture is purely fibrous, especially if there has been no gonnorrheal, and when the stricture is very freely divided, both upon the floor and upon the roof of the urethra, and kept widely dilated during cicatrization—in such cases radical cure is possible after perineal section. Further observation must decide this point. I have only lately begun to consider it. A few years will establish the fact or disprove it. I by no means now positively affirm it.

In inodular strictures various degrees of cure are attained by perineal section. In some cases—with subsequent dilatation for a considerable period—a condition is reached in which the stricture contracts down to a certain point, and there seems to remain, without need for further dilatation. In other cases, after leaving off the use of dilating instruments, the stricture recontracts up to a point of causing, it may be, complete obstruction of the urinary outflow.

The question of the suturé of the urethra—either the immediate suture (after traumatism) of the divided ends of the severed canal, of the divided ends after the excision of the strictured area, or of the floor of the urethra after perineal section, all of which operative methods are much spoken of of late, and praised for their efficacy in hastening cure—has no direct bearing upon the question of radical cure by any method, and therefore the discussion of this important operative method may be ignored for present purposes.

Not so, however, the other two comparatively recent operative novelties, excision of steicture and transplantation of mucous membrane derived from an outside source.

Both threse methods, to my mind, open up for us in the future a chance of more often effecting radical cure in the case of inodular stricture than any other means we now possess. I have no personal contributions to make regarding either of these methods, but the results claimed fall in so directly in support of my impression regarding the difference between simple fibrous and inodular stricture that you will pardon me for calling your attention to what has been done by others.

A. Stricker (of Gottingen) first distinctly called attention to the question of the excision of the strictured area of the urethra by publishing, in 1881-82, some operations performed by Professor Konig, of Gottingen, and alluding to an article published by Konig (with cases) in 1880.

The next important contribution to the subject is by Heusner, who states that he first operated in 1883, not at the time being aware of Konig's published work. Heusner's first case was a man æt. 38, whose membranous urethra had been crushed 2 years previously. Abscess and cicatricial stricture followed, and 1 year later perineal section was performed, but the stricture recontracted, so that much distress was experienced and the patient was obliged to resort to the use of a catheter several times daily.

In June, 1883, Heusner dissected out all the strictured area, 2 centimetres in length, being a portion of the bulbous and of the membranous urethra, The excised portion was lined with granulations and wart-like excrescences. The divided urethral ends were now found to be 3 centimetres apart. The front end was loosened with scissors from the pubic arch, after which approximation of the severed ends was affected and 5 points of catgut suture placed to hold them together. A catheter was tied in for 12 days.

No sound was used, as after ordinary perineal urethrotomy. On 34th day a No. 24 French catheter passed easily, and 1 year

after the operation the patient in a letter declared himself well, saying that never since the operation had he been obliged to resort to the catheter.

Another case, published previously by Heusner, and treated without sounds, died 2½ years after operation. His stricture had partially recontracted (to size 20), and he died of kidney and bladder disease. Autopsy showed at the site of the operation a fine linear scar. Surely these results have an important bearing upon the matter under discussion. In Case I. perineal section is a failure, another operatiou being called for in a year, after which latter the patient reports himself well a year later, not, apparently, having used a dilating instrument meantime. In case II.—a fine linear scar—somewhot contracted, it is true, but yet admitting No. 20 (F.) is found on autopsy, 2½ years after operation.

Wolfler, of Graz. in 1888, details 3 cases of impermeable urethral stricture which he treated by total excision of the diseased area. He allowed the wound to granulate, and on the eighth day covered the granulating roof and sides of the urethra with strips of mucous membrane (as in Thiersch's method for the skin), several centrimetres long, 1 to 2 centimetres broad, cut with a razor from the prolapsed uterus of a convenient patient. These strips were not sutured in place, but retained in position by iodoform gauze greased with vaseline and packed in place—the bladder being drained.

Three or four days later, on removing the dressing, the surface was gray and greasy (*schmierig*) looking as if covered with a fine veil. Four or five days later the surface had become smooth, shining mucous membrane. All the 3 patient treated in this way recovered, although each, unfortunately, still had a small perineal fistula at the date of report.

The first patient was seen a year after his operation, not having been sounded in the meantime. He is reported as urinating in a thick stream. The second patient had a similar result, but had not been observed so long. After eight months No. 20 (F.) sound passed. The third case died six months after operation—from double nephritis. The continuity of the uretha was found to have been entirely reproduced, so that the boundary where the old and the new mucous membrane came together could not with certain'y be determined.

E. Munsel, of Gotha, after excising a stricture in the perineal region, transplanted with great care upon the raw surface immediately, not waiting for granulatious, a piece of the patient's inner layer of the prepuce, of twelve square centimetres (5 ctm. long, 2½ ctm. wide), attaching it with four catgut sutures at each end to the divided ends of the urethral mucous membrane, and retaining it in place with a a woven catheter tied in. On the third day the dressing was changed. On the fifth day thorough inspection showed that the entire flap had taken. The catheter was removed after eight days. A small fistula still persisted at the date of report. Bardenhauer, in a letter to Meusel, states that he has successfully employed this method. A number of other writers have come out in favor of the excision of stricture, notably, Poncet, of Lyons, but have added nothing of interest more than I have already detailed.

These results—not absolutely perfect, as it will be seen, since fistula in the perineum remained, although small in extent—these results seem to me to open up for us in the future new possibilities in the way of radical cure.

If we can cut away utterly all inodular tissue in a given case, and either by suturing the divided urethral ends transform an inodular stricture into a linear fibrous stricture, or by transplanting foreign mucous membrane reproduce a portion of the lost canal, we have surely at our command means which, if developed, promise much in the way of effecting radical cure and relieving the patient from the disagreeable necessity of the indefinite occasional use of a dilating instrument on pain of finding his stricture gradually recontract after perineal urethrotomy.

From what has been written, my conclusions are these:

*Conclusions.*—1. There are three forms of

organic deep urethral stricture: The superficial linear fibrous, with infiammatory and spasmodic complications (which I call the soft stricture); the purely cicatrical fibrous stricture; and the inodular stricture, in which there is development of new inodular tissue over and above the true fibrous cicatrical element.

2. Soft strictures are occasionally (but by no means always) capable of radical cure by dilation—and the addition of mild electrolysis does not prevent this cure by dilation.

3. Pure linear fibrous stricture, especially if traumatic and occurring in patients who have never had gonorrhea, may sometimes be radically cured by thorough longitudinal division of the stricture on the roof as well as on the floor of the canal, and by a maintenance of the cure for a moderate time by the occasional passage of very large sounds. I beg to reserve final opinion on this point for a future communication.

4. Inodular stricture does not seem to be radically curable by this method.

5. It seems possible that inodular stricture may be radically cured by a total excision of all the morbid tissue and suture of the healthy divided urethral ends; or, in cases where extensive loss of tissue makes such approximation impossible, by the transplantation (Wolfler's method) of strips of healthy mucous membrane derived from an outside source.—*Med. Rec.*

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## TREATMENT OF ASTHMA.

Within a recent period we have noticed in our exchanges many articles on the treatment of asthma. As to the remedies recommended in the books for this disease, there is no end. With no intention of depreciating the value of several old and well tried remedies, we shall now only refor to agents which have recently forced themselves to the foreground. Of these perhaps citrate of caffeine stands first. The dose is 1 to 5 grains, dissolved in warm water. It does not appear to be a very dangerous agent, since, in one instance, a patient took 60 grains by mistake, without fatal consequences. Caffeine is said to afford very prompt relief. Arsenic, in the form of 2 or 3 minims of Fowler's solution, is reported as making striking cures in appropriate cases. Arsenic has the peculiar property of supporting respiration, as, for example, in making ascents. Its beneficial effect in asthma is no doubt due to this property. Iodide of potassium is sometimes combined with Fowler's solution. A valuable combination is the bronchitic form in iodide of potassium and carbonate of ammonia. Chloral hydrate, either alone or in combination with bromide of potassium, is also followed with excellent results in certain cases. Cocaine in doses of one-sixth of a grain of the muriate, given in the form of tablets, has been very highly recommended for the relief of the spasm. In the form of stagnant respiration with congested lips and nose, and cold extremities, strychnia has been found highly useful. The liquor may be given in doses of from 3 to 5 drops with dilute phosphoric acid. When defluxion from the mucous surface is very profuse, belladonna probably answers best. Medium doses should be given every four hours. Grindelia robusta a short time ago was largely used, but failed to come up to expectations, and is now much less used. Quebracho is also a remedy in much repute.

We occasionally meet cases of continued distress dispite the use of ordinary means. In these cases there is usually much bronchial tumefaction and dryness. In cases of this class nothing can equal ¼ grain of pilocarpine with ¼ grain of morphine, administered hypodermically. The relief is prompt, the tumefaction subsides, and is followed by profuse expectoration. As to change of climate, experience shows that the asthmatic should not seek a dry atmosphere. A warm, moist atmosphere is the most suitable. In mild cases a mere change from one locality to another may create immunity from this harassing trouble.

The remedies here mentioned, which are culled from a large number of remedies in use, seem to be the ones most relied on at the present time. It must not be understood

that the remedies in this list are to be depended upon in symptomatic asthma. This asthmatic condition is merely a symptom of a disease usually of a much graver nature. The bronchial muscles are here in a normal condition, some probably serious organic trouble being the cause of the symptom, and requiring a separate treatment, as indicated by the pathological conditions.—Ed. *Kan. City Med. Rec.*

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TREATMENT OF BALDNESS.—Dr. Lassar (*Ther. Ztsch.*, December, 1888) recommends for alopecia areata the following treatment: For the first six or eight weeks the scalp should be soaped for ten minutes daily, using a strong tar soap, making a good lather. This should be removed with an irrigator, using first lukewarm, and then cold water. The cold douching will, after several repetitions, harden the scalp somewhat and prevent catching cold. After the scalp has been thoroughly dried, the following lotion should be applied:

℞ Solution of mercury bichloride, 8 grs. to 5 oz. glycerine.
Cologne water - - 42

The scalp should be rubbed dry with alcohol, nine per cent, to which one half per cent naphthol has been added, thus freeing it from any fat, when the following is applied:

℞ Salicylic acid - - 30 grs.
Tincture of benzoin 45 grs.
Neat's Foot Oil - 26 drs.
M.

This treatment, if carried out daily for some weeks, is followed with good results. Dandruff and itching disappear. Hairs which are stiff and dry become flexible and oily, and where no hair was hundreds of small hairs will make their appearance. Of course this only holds good where the hair growth is not destroyed. In very obstinate cases, the following is of value:

℞ Carbolic acid, 15 grains; sublimed sulphur, 75 grains; fat from a horse's neck, 12 drams. Dr. Lassar relies very much on pilocarpine which he prescribes either in the form of an alcoholic solution or pomade:

℞ Pilocarpine muriate, 30 grains; vaselin, 40 grains; lanolin, 20 drams; oil of lavender, 25 drops. M. The addition of balsam of Peru to hair pomades takes the place of an antiparasite. The following would make an efficient though somewhat expensive pomade:

℞ Pilocarpin muriate, thirty grains; quinine muriate, sixty grains; precipitated sulphur, two and one-half drams; balsam of Peru, five drams; ox marrow, twenty-eight drams.

Before applying the pomade, the scalp should be thoroughly washed with soap and water, allowed to dry; then the ointment should be applied, but it should not be left on too long, but soon soaped off and reapplied. Tar in the form of tar baths is an excellent remedy and antiparasite.—*Med. Standard.*

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THE PREVENTION OF CRUELTY TO CHILDREN.—The Society for the Prevention of Cruelty to Children has been in existence for five years. During that period it has investigated 1000 cases of cruelty in London alone, and still a larger number in the country. It has been found that owing to technical difficulties only 150 of these were punishable, and penalties have actually been inflicted in 130 cases. Taught by this experience, the Society have drafted a bill proposing to confer fuller powers of interference and restraint upon any who will interest themselves in the welfare of neglected or ill-treated children. Among the more noteworthy provisions included in this measure are a clause for the suppression of begging by means of children —the parent, not the child, being made responsible; another for the regulation of street-hawking; and a third which by extending the operation of the Factory Act to the streets would provide for the education of many homeless waifs. Children who are insured or otherwise connected with a money interest are particularly liable to ill usage, and special provision has been made for them. Among the difficulties encountered in dealing with such cases, those of search in

households where cruelty prevails, of obtaining evidence from near kin and from children themselves which would be sustained in a court of law, of arrest of parents or others in time to prevent imminent bodily injury to their young charges, and of arranging for the custody of rescued children, are particularly noticeable. The new draft contains clauses dealing with each of these conditions. We may describe the measure as, on the whole, a sensible and moderate endeavor to deal with what is at once a very pressing matter, and one which bristles with perplexing legal difficulties. In effect, it merely claims for children the protection due to every citizen, and allowed even to the lower animals. It accepts parental rights, but at the same time enforces parental duties. The necessity for some such bill is evident; its motive is wholly salutary; and its method, so far as we can see, is open to no valid objection.—*London Lancet.*

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THE ETHER SPRAY IN STRANGULATED HERNIA.—Walter E. Lloyd, in the *Lancet*, says: "I am able to record another successful reduction of strangulated femoral hernia by the aid of the ether spray.

On Saturday, May 4, I was called at 10.30 A. M., to Mrs. R———, æt. 47 years. I found a hard swelling about the size of an orange in the right groin. No impulse was caused by coughing. There was constant vomiting, which had not, however, become stercoraceous. During December last I attended this patient for a similar condition, and I was then able to reduce the hernia by taxis. On the present occasion I found this to be impossible. I prescribed the usual treatment and returned at half-past twelve, when I again tried taxis unsuccessfully. Having read of the use of ether spray in the *Lancet* of May 4, I determined to test its merits. I sprayed the hernia for about twenty seconds, using less than two drams, and was much gratified to find that I was able to return the intestine with the greatest ease. The patient rapidly recovered and has been up and attending to her domestic duties. The successful result I believe to be caused by the sudden application of cold relieving the congestion at the point of stricture.

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TOTAL EXTIRPATION OF THE LARYNX.—Mr. Charters Symonds, of Guy's Hospital, has had a successful case of total extirpation of the larynx for epithelioma. The patient was a man, æt. 41 years, under the care of Dr. Greville Macdonald; when he first came under observation in April, 1888, Dr. Macdonald removed the growth with the forceps, as an external operation was objected to; it quickly reoccurred and after some further hesitation the patient finally consented, and on October 28, Dr. Symonds performed a partial operation; the growth quickly recurred and seven weeks later the whole larynx was extirpated; he made a fairly good recovery, and when shown to the Clinical Society on April 26, he was in good health and spirits, and there was no sign of recurrence after four months. He could speak in a low, distinct, though gruff voice, and this was managed by passing through the upper wall of the canula a curved tube which ran up to the base of the epiglottis, and admitted the air when he closed the canula with the finger. This was found much simpler than the artificial larynx, and, moreover, the patient preferred the sound of his own voice. The vibrating structure appeared to be the mucous membrane of the pharynx running back from the epiglottis. This is said to be the first recorded case in which the patient was able to speak after total extirpation of the larynx; the voice was gruff and loud, but speech was intelligible; the Vienna reed artificial larynx has a tone like a toy trumpet.—*Times and Register.*

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Again discussion as to the propriety of doing away with drains in major operations is rife in France. In speaking on the subject before the Paris Society of Surgery, Jules Boeckel, of Strasbourg, characterized the use of all drainage apparatus as not only superfluous, but actually an error in surgery. It may be encouraging to the conservative to add that his views did not meet with as hearty an indorsement as he would have wished.

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### PTOMAINES AND LEUCOMAINES.

BY WM. DICKINSON, M. D., ST. LOUIS.

The process of normal digestion involves the harmonious and concurrent operation of many factors. It is the final result attained chiefly by the contact of food received into the stomach with the unorganized ferments, ptyaline, pepsine and pancreatine. Ptyaline is furnished by the saliva, pepsine by the gastric juice and pancreatine by the pancreas. Ptyaline begins the conversion of the starchy constituents of aliments into glucose; pepsine, the albuminoids or nitrogenous foods into albuminose, or peptones, and pancreatine, aided by trypsin and the bile, are destined to act still further upon the starches, the proteids and fats, thus bringing the entire mass into an emulsion capable of being absorbed and ultimately converted into blood. Such are the various modes of participation of the unorganized ferments in the process of normal digestion. They are chemical agents, and as such can have but a single course of action, unless overpowered by the invasion of other intercurrent agents.

Indigestion, on the other hand, is not the result of mere accident, nor does it occur without a well-defined cause or combination of causes. It is evidenced by pain, vomiting, purging, depression, prostration, or other physical phenomena. These are but signs of distress: the declaration that an army of organized ferments, ever lying in ambush, have overcome the action of the normal chemical process, and by their potent action have induced putrefaction. These organized ferments are bacteria, and this putrefaction of the ingesta is the result of bacterial action. These are alkaloid bodies formed by the decomposition of putrid substances, they are derived from both animal and vegetable substances, and are the products of albuminous decomposition. It is probable that these alkaloids are continually being found in the bodies of healthy men and animals by the decomposition of albumen in the intestinal canal during the process of digestion. Though the greater part of them are destroyed in the body, yet some are excreted in the urine and the feces, from both of which powerful poisons have been extracted. Some of these produce a very marked physiological action, others none. Some produce fatal symptoms and death.

Bouchard states that "the poisonous activity of human feces is very great, even when they are quite healthy, and the alkaloids formed in the intestines of a healthy man in 24 hours would be quite sufficient to kill him if they were all absorbed and excretion stopped." To these alkaloids the term "Ptomaines" has been given, derived from the Greek word ptoma, signifying a carcass. As early as 1870 M. Armand Gauthier first announced that the putrefaction of proteid substances gave rise to alkaloid products. About the same time Selmi, of Boulogna, asserted that the stomachs of persons who died a natural death contained, after a period of time, substances that behaved towards particular reagents in a manner identical with vegetable alkaloids. He also showed that the same substances are present in the alcohol that has been employed in the conservation of anatomical and pathological specimens.

Normal digestion has three stages, viz.

First stage embracing 30 minutes; during this period lactic acid is formed.

Second, embracing from 30 to 60 minutes, during which period lactic acid and hydrochloric acid are formed.

Third, embracing from 60 to 90 minutes, in which hydrochloric acid, alone is formed; but when a pathological condition of the stomach exists, these stages may occupy a longer time, so that an hour after the food is taken lactic acid is still to be found. The presence of bacteria in large numbers changes the entire programme; they so change the condition of the gastric and other digestive fluids as to render perfect digestion chemically impossible; putrefaction is then the result. A great number of bacteria enter into this process. By their action starch is changed into sugar, and sugar is changed into lactic acid, butyric acid and mucilage; alcohol into acetic acid, urea into carbonate of ammonia, albumen into peptones and othor similar products, and in the midst of this process other bodies are produced. These bodies are quaternary alkaloids of various chemical reactions; some are poisonous and some are not. These are known as ptomaines, as already stated. Besides these indol, phenol, skatol, sulphuretted hydrogen, ammonia, carbonic acid and water are produced. The presence of these bodies indicates that putrefaction has taken place, for putrefaction cannot take place without them.

The specific action of a few bacteria is known.

The bacillus amylo-bacter is everywhere the cause of butyric fermentation. *Mycoderma aceti* change alcohol into vinegar. The lactic acid ferment, which is a bacillus, changes milk sugar into lactic acid.

These are but a few of the immense number of the bacteria in the stomach and intestines.

The quantity of hydrochloric acid in the normal gastric juice is but 2 per cent. When the proportion is increased to 6 per cent, digestion is arrested; the fluids of the stomach become intensely acid, rise in the throat and set the teeth on edge; this acidity is due to bacterial action, or putrefaction of the food materials in the stomach. It is an evidence that putrefaction in the stomach and intestines has taken place and no longer supplements the action of the unorganized ferments in the ordinary process of digestion. Therefore, when digestion is not normally performed, it is an indication that this anomaly does not depend so much upon the variation in the quantity or quality of the gastric or other digestive fluids, as upon the subversion of the power of the normal fluids by intense bacterial action. In other words, the question is no longer one of digestion, but of putrefaction, and in this process poisons are elaborated which may accumulate and work mischief, and even death.

### LEUCOMAINES.

In the year 1849 Liebig and Petenkofer discovered in the human body a substance which they gave the name creatinine. This is an excrementitious substance, normally found in the muscles in considerable quantities, and in a greater amount in the urine. This was the first discovered of that numerous class of alkaloid bodies to which the designation leucomaines was subsequently given. Gautier has found them constantly present in the normal excretions of the body, in health as well as in sickness. They are substances closely resembling ptomaines; they are found in the living body and during life, instead of being developed after death; they are also endowed with poisonous qualities, and even then they do not act as energetically as the ptomaines. Being found normally in the body, they are physiological, at least in part, in their origin; but whether of physiological or pathological origin, they arise as a consequence of fermentative action; in septic maladies by the specific action of pathogenic microbes and in health by the intestinal processes of fermentation that accompany digestion.

Uremic poisoning may, upon further investigation, be found to have important relations to ptomaines and leucomaines as effect and cause, and it may yet be demonstrated that the cause of many other affections, whose origins are now involved in obscurity, may be found to be dependent upon the existence of bacilli

in the intestinal tract and in the alkaloids produced by them.

In the green diarrhea, which is frequently the precursor of cholera infantum, an immense number of bacilli are to be found, and their number augments as the affection becomes severe; as the disease declines the number diminishes. The stools of patients with green diarrhea have no resemblance to those of yellow diarrhea in respect to their bacillary contents.

Now how are we to interpret the relation of cholera infantum and the bacilli? These are the agents of putrefactive changes in the food materials in the intestinal canal. In this putrefaction poisonous alkalines are produced. They are absorbed and produce acute poisoning, as shown by diarrhea, vomiting and collapse. Should this seem a fanciful explanation of these conditions, when we have so often observed either in our own practice or read accounts of meat poisonings, which are due to the eating of flesh in the process of putrefaction, from which ptomaines have been extracted capable of producing similar symptoms? Why do not cases of cholera infantum occur just as frequently among children who are nursed at the mother's breast? Just because there are no bacilli in the intestines of children fed on pure milk diet thus obtained, *i. e.*, at the mother's breast; hence no chance for fermentation, and consequently no chance of poisoning from the products of fermentation.

When mixed food is used, the possibility for pure feeding is gone. How often an outbreak of cholera infantum has followed the eating of a bad conditioned banana or apple! As we know that the agents which produce putrefaction are the same both inside and outside the body, we can understand why the introduction of swarms of bacilli into the intestinal canal by means of decaying fruits, would be fraught with greater dangers far to the child than its mere exposure to heat.

In like manner we would explain the causation of cholera morbus and simple cholera. A ptomaine extracted from pure cultures of the cholera bacillus will produce all the phenomena of cholera, equally as well as the injection of the fluid from the intestines of the victims of the disease. Nor are the alkaloids produced in the intestines of the same kind always; the bacilli may vary; so, too, may their products and their effects upon the organization. Instead of vomiting, diarrhea and collapse, we may have headache, fainting, lethargy, palpitation of the heart, eructations, mental depression, distention of the stomach and bowels, aching in the limbs and indisposition as well as incapacity for muscular exertion, somnolence, etc.

How often in the second summer we observe cases like the following, viz.: child, 18 months, weaned in early summer, begins to emaciate, vomits occasionally milk in curds, has pasty, greenish, acid stools, or when he eats meats, they escape in the same kind of masses, and with little or no change of character by the action of the digestive fluids. There are attacks of diarrhea, and the stools are composed of mucus, with small quantities of what seem to be fecal matter. The skin is pallid or sallow, flaccid and non-elastic. The abdomen is distended, the sleep disturbed and there is grinding of the teeth. Sometimes convulsions, at other times depression, with sweats.

Again, in adults there are cases of watery diarrhea which persist for weeks and months in spite of simple evacuants and astringents. The stools, if carefully examined, will be found to be largely composed of bacilli and the urine loaded with indican, another name for uroxanthine. In such cases the administration of small doses of mercury, either mercury with chalk, calomel, or the bichloride of mercury, the bactericide par excellence, will probably not disappoint the reliance reposed in it.

There is no doubt that the bile has an important office in the prevention of intestinal putrefactions. We are all quite familiar with cases in which the stools remain clayey which are also intolerably fetid. By common consent this condition has been attributed to the want of bile in the intestines, by failure of secretion or from obstruction. Calomel or

blue pill has been administered for time out of mind for this condition and with favorable results. The benefit derived was supposed to be due to the action of calomel in increasing the flow of bile.

Late bacteriological studies warrant the conclusion that mercury, instead of increasing the quantity of bile, the natural antiseptic of the intestines, either directly or indirectly destroys the bacteria, and thus performs for the system a duty which of itself it can no longer discharge.

Having considered sufficiently for our present prupose the phenomena attending normal digestion and the causes of indigestion, which the present stage of physiological science authorizes us to believe is due to putrefaction, and that this putrefaction of the ingesta is due to the organized ferments, alkaloidal bodies which have received the names of "ptomaines" and "leucomaines," we are prepared to comprehend more intelligibly many symptoms heretofore obscurely appreciated, and to refer them to their appropriate cause.

The supervention of dangerous and even fatal symptoms after the introduction of certain articles, commonly used as food, into the stomach, has often been observed, and such instances abound in the annals of medical literature. That similar symptoms should follow the introduction of well-known, irritant, narcotic or caustic poisons excites no surprise; but when they follow after a longer or shorter interval the use of aliments universally regarded as innocuous, then alarm is aroused, and we are induced to inquire, why is this? What is the cause proximate or remote of this perversion of their nature? Why has the food or the luxury become a poison, even when the impossibility of its contamination by an extraneous poison is well established?

The solution of this question has engaged the investigation of chemists, physiologists and pathologists, and by them rich revelations have been made. Few and meagre were the rewards of the earlier researches, but like the progress of the early morning light to the mid-day splendor, they have steadily advanced till the great question has reached the stage of almost complete solution. Taylor, a quarter of a century since in his work on "Medical Jurisprudence," confesses his ignorance of the nature of the poison thus introduced or elaborated; but adds "partial decomposition may render unwholesome the flesh of the most healthy animals;" but he did not discern the "how." Liebig approximated the discovery more fully developed in later years; he attributes the phenomena witnessed to the production of a fermenting principle, and that it operates fatally by producing a kind of fermentation in the animal body, its chemical nature being unknown, but its irritant property undoubtedly due to a putrefied state of the intestinal contents.

I find two cases of poisoning by mushrooms, published in 1863. In one the effects were a burning sensation with constriction, extending down the pharynx; the abdomen was distended, the stomach was irritable, but no actual vomiting occurred; there was slight purging; the sight was dim and all the objects seen had a blue color. In the other case, drowsiness and giddiness were the only symptoms observed. Both patients recovered after the administration of an emetic, but nervous twitchings remained for some days.

Three other cases occurred. About ten hours after the eating of fungi, one of the patients, a man of 38 years, was seized with pain in the epigastrium, extending over the abdomen; nausea, vomiting, purging and collapse came on and he died in 38 hours after the first appearance of the effects of the poison. Decomposition of the body set in 17 hours after death.

The second case, the wife of the former, was attacked with similar symptoms, but she recovered. In the third case a man suffered from vomiting and diarrhea for some days and recovered.

Again, a party of eleven ate of the flesh of a heifer, two years old, supposed to have been diseased. It had been cooked for dinner on the same day on which it was slaughtered. The two who did not partake remained well but all the nine who ate were seized with symptoms of poisoning, suffering from vom-

iting and diarrhea, with great prostration. Two of them died, the others recovered. In a few days the two men who slaughtered the cow were attacked with phlegmonous erysipelas of the arm. One of them had a large pustule on one knuckle where he had cut himself while engaged in skinning the animal. In the other case no local cause could be discovered. They both recovered. Two swine which ate of the offal of the cow died.

In Hutchinson, Minn., in July, 1886, several persons died with symptoms of irritant poisoning after having eaten of pickled beef. The butcher from whom it was obtained, to prove his confidence in the absence of poison, gave a portion of the same to his two children, from which they too soon died.

In July, 1886, 180 persons living near Pottsville, N. J., attended a picnic and partook of canned ham. By it many were rendered dagerously ill, and it was feared that many deaths would result.

Besides flesh rendered unwholesome from disease and decay, there are certain kinds of shell fish which under certain circumstances may give rise to formidable symptoms and even death, with all the symptoms of irritant poisoning. The same is true of pork-bacon, salmon, pickles. In my family several years since, smoked white fish was served. In a few hours thereafter, symptoms of poisoning occurred, *e. g.*, pain, vomiting and purging, from which, however, all speedily recovered. About the same time several similar cases from the same cause were published in the papers.

In my own person the drinking moderately of champagne cider produced in a few hours violent choleraic symptoms, which, however, continued but for a day.

Prof. Vaughan, of Michigan University, states that in the year 1883, 300 persons were taken violently ill after eating cheese. At the request of the Michigan Board of Health, he undertook an investigation with the view of ascertaining the cause. While engaged in this research he discovered the substance to which he gave the name tyrotoxicon (cheese-poison). This he ascertained to be a crystalline poison, and produced upon animals the symptoms of poisoning by arsenic.

During the year 1886 he obtained this same substance from ice-cream that had sickened 18 persons.

On August 7, 1885, 24 persons at one of the hotels at Long Branch were taken ill soon after supper. At another hotel on the same evening 19 persons were seized with the same form of sickness. From one to four hours elapsed between the meal and the manifestation of the first alarming symptoms, which were those of gastro-intestinal irritation similar to poisoning by any irritating material, *i. e.*, nausea, vomiting, cramps and collapse. A few had diarrhea; dryness of the throat and a burning sensation in the esophagus, were prominent symptoms. One week later at another hotel at Long Branch 30 persons were taken ill with precisely the same symptoms as noticed in the first outbreak. Drs. Hunt and Williams attended all the patients on both occasions. All who had been taken ill had used milk manufactured into ice-cream, in greater or less quantities. And persons who had not partaken of the milk escaped entirely.

Milk was thus ascertained to have been the occasion of the sickness; and to some quality of the milk some one of the following possible causes were assigned, viz.:

1. Some chemical substance, such as borax, boric acid, salicylic acid, sod. bicarbonate, sod. sulph., etc., added to preserve the milk or to correct acidity.
2. The use of polluted water as an adulterant.
3. Some poisonous material accidentally present in the milk.
4. The use of milk from diseased cattle.
5. Improper care of the cattle.
6. The improper care of the milk.
7. The development in the milk of some ferment of ptomaine, such as tyrotoxicon.

None of the milk which occasioned the sickness on Aug. 7, the time of the first attack, could be procured for analysis, but of that used on the second occasion a liberal quantity was procured. It was soon ascer-

tained that one dealer had supplied all the milk used at the three hotels where the cases of sickness had occurred. * * * "Two deliveries were made daily at the hotels, one in the morning and one in the evening; the milk supply at night was the sole cause of the sickness. After a careful investigation by Wm. K. Newton, M. D., Sanitary Inspector and Analyst of the State Board of Health of New York, the causes were ascertained to be improper care of the milk and the presence of the ferment, tyrotoxicon. The cows were milked at the unusual and abnormal hours of midnight and noon; and the noon's milking, that which was followed by illness, was placed, while still warm, in the cans, and then, without any attempt at cooling, carted eight miles during the warmest part of the day in a very hot month.

The city of New York receives about 200,000 gallons of milk each day from the surrounding country. The usual practice is to allow the milk to stand in open vessels surrounded by ice or cold water for from eight to twelve hours before the transportation; and when placed in the cars it has a temperature of from 50° to 60°, and is delivered to the consumers in a perfectly sweet condition. Improper care of the milk, therefore, had much to do with the illness produced at Long Branch.

Chemical investigation of the milk of which the ice cream on the last occasion was manufactured obtained a mass of needle-shaped crystals. These placed on the tongue produced a burning sensation. A portion of the crystals was mixed with milk and fed to a cat, when, in the course of half an hour the animal was seized with retching and vomiting and was soon in a state of collapse, from which it recovered in a few hours.

These crystals are identical with tyrotoxicon, the alkaloid obtained and described by Prof. Vaughan. This substance is believed to be allied chemically to butyric acid; that it is formed in the milk by fermentation, and that its fermentation may be prevented by keeping the milk at a low temperature, or by properly cooling the milk after it is drawn from the cow." The report closes with the observation that "the sickness at Long Branch, therefore, was caused by poisonous milk, and that the toxic material was tyrotoxicon."

The occurrence of similar instances of poisoning nearer home has aroused the interest of a large number of physicians. At a picnic at Pinckneyville, Ill., July 4, 1886, a large number of persons assembled partook of ice-cream. Of the entire number only a few escaped. Symptoms of irritant poisoning were experienced after the lapse of from 12 to 18 hours after the ice-cream was taken into the stomach. They were first attacked with severe pain in the bowels, frequent watery discharges, but readily controlled by opiates. All, however, recovered except two children, who died comatose and in convulsions from 24 to 36 hours afterward. (This account was furnished me by the late Dr. A. K. Leeper, of Coulterville, Ill., whose daughter and niece were among the sufferers.)

The results of the exhaustive investigation of the causes of the sickness, both at Long Branch by Dr. Newton, and in Michigan by Prof. Vaughn, authorize the statement that the sickness that occurred at Pinckneyville, Ill., on July 4, 1886, was due to the presence and action of the organized ferment, "tyrotoxicon," in the ice cream that was eaten; and that this alkaloid had developed in the milk or cream or both before their conversion into ice-cream; that this ferment could not have been developed after their conversion into ice-cream, since cold is a preventive against, and heat is a powerful auxiliary to, its generation. It may be practically impossible to ascertain the history of the milk and cream employed, and their condition before their manufacture into ice-cream, but since sequences have positive antecedents, it can scarcely be considered conjecture, that some portion or all of the milk or cream, or of both, employed in the manufactured and offending ice-cream partaken of, had been subjected to a high degree of temperature; and that during this abnormal condition bacteria in great numbers were developed; that the cold to

which they were afterward exposed was not sufficiently potent to destroy them; that this organized ferment induced putrefaction in the ingredients employed; and that the ice-cream thus conditioned when introduced into the stomach acted as a virulent poison, its elements being intensified by the normal heat of the body, and occasioned the sickness of all, and in its consequences the death of two, who, unconscious of danger, were participating in the festivities of the national anniversary.

In closing I have only to add that bichloride of mercury, the bactericide *par excellence*, will doubtless be found to be the most reliable antidote to organized ferments introduced into or generated in the human system.

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## SYPHILITIC EPIDYMITIS.

BY G. W. DAVIS, M. D., KANSAS CITY, MO.

Read before the Missouri State Medical Association, May, 1889.

Peter S., æt. 26, single, laborer, born in Germany, has always been healthy. Negative history of injury and denial of previous venereal trouble. No evidence of lung disease.

In the early part of last October he noticed an ulcer on the dorsal surface of the prepuce, which was diagnosed and treated as chancre.

About one month after the first appearance of the sore, patient accidentally discovered a small lump just above the left testis.

Previous to my attention being called to the case, he was seen by several physicians and the enlargement pronounced a "malignant growth;" and then again, it was supposed that it might be a hernia from omental protension.

February 16, about four months after the first appearance of the chancre, the patient came under my observation.

On examination I noticed the cicatrix of the chancre, papulo-pustular eruption, enlarged gland at the angle of the jaw, alopecia, headache and the symptoms of secondary syphilis. On examining the testes found them normal, but discovered in the region of the globus major of the left epidymis, and in fact involving all of the epidymis and extending along the cord to the pubic bone, an enlargement, indurated and almost cartilaginous to the feel.

As near as could be determined, this enlargement was about three and a half inches long by one inch in width, and obviously not attached to the pubic bone, but seemingly nearly filling the opening of the external abdominal ring. This swelling was indolent and only a slight amount of pain was caused by manipulation. Rectal examination showed some tenderness.

Placed the patient on anti syphilitic treatment, pil. hydrarg. gr. i, three times daily, and eleven days from the commencement of this treatment was gratified to find the tumor much smaller and the veins more distinct.

Regarding local treatment as unnecessary, I yet occasionally applied ungt. hydrarg. to amuse the patient and quiet his imagination.

Recently the swelling was examined and found to have disappeared almost entirely; the result of treatment thus confirming the diagnosis.

Syphilitic epidymitis was first described in 1863 by Dron, of France.

The literature of the subject is very meager and not altogether satisfactory.

The best authorities speak of the disease as of rare occurrence and unanimously state that it does not soften or show signs of degeneration.

This fact is controverted (so far as I am aware) in only one instance, and that by a case reported in the New York *Med. Rec.* for 1887, p. 194.

The history there given is not to my mind proof conclusive that the case was one of syphilitic epidymitis, but probably gonorrheal epidymitis occurring in a syphilitic subject, as the recorded facts show the patient with tight urethral stricture complicated by urinary retention and two attacks of gon

orrheal epidymitis before he became syphilitic.

This is the only record I can find of a reported autopsy.

The case I have reported is one of exceptional interest.

In the examination of several hundred cases of scrotal tumors, I have never met one like it.

The special features are its affecting only one side, while both sides usually are involved; its large size; but most remarkable of all was its involving the cord.

This exception is rare indeed, and only a single reference is all I can find of such an involvment.

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Hon. Geo. C. Barrett, Judge of the Supreme Court, New York, in answer to a question, says that a practioner who styles himself a homeopath has not the right to practice any but strictly homeopathic principles ; not only that, but if he infringes on this law of common consent, he may loose his fees, or may even be prosecuted for malpractice. For, in sending for a homeopathic physician, the patient implied that he preferred that school to any other, and if, without his knowledge or consent, he is treated according to the methods of some other school, it is a fraud and renders the consultant liable to the penalties mentioned. Were this ruling generally enforced, what a lively commotion would be set up amongst our antipodal confreres ! And it bids fair to really assume such an awkward attitude for them, as the New York *Med. Times*, the chief exponent of homeop*ocrisy*, plaintively urges its readers to " ponder this subject well, and not allow themselves to remain in a questionable attitude, and one which may prove to be troublesome in the extreme!" "Let us," it says, " call ourselves hereafter, simply *physicians*, then we may practice as our knowledge and our consciences will allow, and be safe from the charges to which Judge Barrett's opinion shows that we are otherwise liable."

Confession they say is good for the soul ; we hope the *Times* feels better.


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SATURDAY, JUNE 22, 1889.


## THE REPORTER AND THE INSANE ASYLUM.

We were much gratified with the description of the workings of our Insane Asylum, so graphically depicted recently by a reporter of the *Republic*, who, although he obtained his entrance to that institution " under false pretenses," did so with the best of motives, intending to represent things just as he found them, not with the idea of writing up a sensational article, wholly misrepresentative, for the sake simply of satisfying the morbid tastes of those who delight in such literature.

Conversant, as we are, with Dr. Atwood's management, and also with the resources upon which he is compelled to depend, we must say that the article in question was eminently fair and the criticisms — remarkable for their scarcity—quite just and proper. And we were glad to note that the reporter displayed discriminative powers beyond those accorded the usual run of visitors; he was able to go back of the apparent origin of the "hard pillows and over-packed wards." Nor, was he diffident about attributing everything was wrong,that could be criticised to the blind parsimony of the city itself.Here is where the fault lies! And yet from this very source come the abuse and maledictions so frequently heaped in abundant profusion on the heads of the officers of these institutions. Whenever an accident happens, a patient escapes, or one complains of the want of proper food,clothing or attention,it is blazoned forth in the dailies. Interviews, criminations and recriminations follow thick and fast,

and finally, the whole thing simmers down, almost invariably to one fact, insufficient resource, lack of support.

Boston, for her city hospital, appropriates in the neighborhood of $150,000 yearly, while St. Louis, a city of hardly less population, barely squeezes out $65,000 or $68,000 for her hospital. Instead of tearing down this aged, unsightly and ratty (in more senses than one,) old Noah's Ark, and replacing it with a *hospital*, adapted at least to the simplest elements of hygiene and common sense, picayunish sums are spasmodically granted by the assemblies, serving only to maintain this monument of modern patchwork. It would probably really be better if no such appropriations were made; the building would then crumble sooner and we of this generation might hope to see St. Louis exhibit some self-respect in the matter, even though it were forced on her.

While, from frequent repetition, both through the lay and medical press, the senses of the public seem to have become dulled to all appreciation of what this inhuman crowding and insufficient support of the city's eleemosynary institutions really means, at the same time, the praiseworthy and untiring efforts of the gentlemen conducting them usually go unrecognized, or at least unheeded; and this is conspicuously true of most newspaper articles relating to the subject. There is cause, therefore, for congratulating both the *Republic*, for its unbiased report and philanthropic endeavors to right a grievous and continuous wrong and Dr. Atwood, who has received this acknowledgement of his invaluable services.

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## Is Antifebrin Dangerous?

Dr. A. L. Snyder, of Oregon, relates in the *Times and Register* the case of a child æt. 3 years, to whom he administered four grains of antifebrin at one dose for the purpose of reducing fever. "Hardly had a half hour elapsed when I was summoned to the bedside to find that the dose had done its work effectually as the temperature was below normal, with impending collapse indicated by cold extremities, feeble respiration and labored heart's action. Prompt administration of restoratives prevented the impending result, and the patient was eventually restored to health, but under other treatment than that afforded by antifebrin," and then the question is innocently asked, "is antifebrin dangerous? Should it not be administered with circumspection?"

Considering the fact that the Doctor gave what would be a full dose for an adult to a 3-year-old child, we would mildly suggest that he do exercise some circumspection in his future use of this powerful drug. It is frequently the case that as marked an antipyretic effect may be obtained, even in adults, from the administration of 2 or 2½ grain doses of antifebrin as is obtained from what should be the maximum dose, 5 grains. And if diaphoresis is favored at the same time, by warm drinks, keeping the patient well covered, etc., the same effect is attained more easily, more quickly and with less depression than where it is obtained simply from large doses.

Antifebrin is certainly dangerous; so are salicylate of soda, quinine, morphine or almost any other drug we can think of, if given in sufficient quantity.

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## The Way They Do It In Illinois.

At the recent meeting of the Illinois State Medical Society Dr. J. L. White, of Bloomington, read a paper on "Hygiene and Doctor's Fees," in which he mentioned favorably the work of the State Board of Health. Dr. Geo. N. Kreider, of Springfield, spoke in the same favorable manner of the good work of this Board. He drew attention especially to its influence on medical education. He closed his remarks by a motion to the effect that a telegram be sent to Hon. J. H. Miller, Speaker of the House of Representatives, stating that the Illinois State Medical Society, in session at Jacksonville with a large attendance, had expressed its confidence in the State Board of Health, and a full appreciation of its work, and that said Society respectfully

requested the members of the House to act favorably on the appropriation, sustaining the work of the Board.

The motion was carried unanimously.

A few hours later word was received that the House had acted favorably on the appropriation.

The appropriation is $9,000 per annum, with a contingent fund of $10,000 to be used in case of an outbreak of cholera, yellow-fever or small-pox. The quacks and patent-medicine peddlers made a bitter fight against the Board this year. This measure is a decided victory over them, and a merited support to Dr. John Rauch, especially, the eminent Secretary of the Board, who deserves great praise for his untiring zeal in connection with the work of this well-known State Board for so many years.

## NEWS ITEMS.

Yellow fever continues prevalent in Rio-de-Janeiro.

Dr. Bransford Lewis has removed his office to 1006 Olive Street— the Gregory building.

The soluble albumniate of iron is much used by French physicians. In chlorosis, especially, do the claim many advantages for it.

Dr. Andeer, in *Centralblatt f. Med. Wissenschf.*, reports the successful treatment of a rapidly growing and painful keloid of the foot, by the application of a 1% ointment of resorcin.

Dr. Thos. J. Pitman, of Jacksonville, Ills., was married on the evening of May 28 to Miss Eloise Griffith, daughter of Dr. B. M. Griffith, and sister of Dr. B. B. Griffith, of Springfield, Ills. They left immediately for a trip abroad.

The *Pharmaceutical Record* offers a U. S. Dispensatory as a prize to the first drug clerk who sends a satisfactory analysis and criticism of a series of prescriptions which it gives. This is for the laudable purpose of encouraging drug clerks to a more thorough study of their occupation.

Dr. Harry M. Sherman in the *Pacific Med. Jour.* reports a case where an entire ungual phalanx, after having been carried away by a punch, was reproduced from a small scale of bone left on one of the flexor tendons. Such beneficent activity on the part of Nature should be encouraged.

Changes have lately been made in the Faculty of the Medico Chirurgical College of Philadelphia. Dr. Frank A. Woodburry is now Honorary Prof. of Clinical Medicine; Wm. B. Atkinson, A. M., M. D., Honorary Prof. of Sanitary Science and Pediatrics; John V. Shoemaker, A. M., M. D., Prof. of Materia Medica, Pharmacology, Therapentics and Clinical Medicine; James M. Anders, Ph. D., M. D., Prof. of Hygiene and Clinical Diseases of Children.

The happiest combination of business with pleasure which we can call to mind at present, is that of the magnificent excursion to California, arranged for the American Pharmaceutical Association, which holds its annual session at San Francisco, from the 24th to 29th of this month.

A very attractive pamphlet and diary of the trip have been issued by the committee on arrangements, and it requires much fortitude to resist the temptatiou offered by these to join this Westward, ho! company.

Tassinari claims that the smoking of tobacco retards the evolution of microbes; to discover what influence this might have on the occurrence of diphtheria, Hayck, of the Med. Col., of Vienna, collected statistics, and found that from 1885 to 1888, the proportion of cases of diphtheria in men (smokers) to women was 1:2.8, showing nearly 3 times as great a predominance amongst non-smokers.

Dr. Unterholzer has, on the other hand, shown that the mortality of the disease is 4% less amongst women than men.

## SOCIETY PROCEEDINGS.

### MISSOURI STATE MEDICAL ASSOCIATION, MAY 21st AND 22nd, 1889.

The President, Dr. A. W. McAlester, in the chair.

[CONTINUED FROM PAGE 661].

TWO CASES OF LAPAROTOMY WITH COMPLICATIONS, by H. C. Crowell, M. D., Kansas City.

CASE 1. Mrs. D., æt. 25, had a fluctuating tumor in the left fornix of the vagina; the uterus was firmly bound by adhesions. The patient had suffered much pain from repeated attacks of pelvic inflammation. The operation was performed on Nov. 23d, 1888. A median abdominal incision showed numerous adhesions among the intestines, omentum, uterus and pelvic tissues, which complicated matters very much, and persistent efforts at removing the tumor were unsuccessful, so that further endeavors in that direction were abandoned and the abdominal incision was sewed up again. The patient died 30 hours after the operation from uremic coma, due probably to the primary shock, coupled with the ill-effects, so often noted after prolonged etherization, the patient in this case having been under the influence of this anesthetic two hours; it was too late to attribute death to the shock—indeed she manifested no symptoms of shock—and it was not late enough for septicemia and we had no hemorrhage.

Post-mortem examination showed that the surgical wound was in good condition. I tried to free the uterus from its posterior attachments, before making vaginal separation, but was unsuccessful until I had cut away the vagina, thus showing the excessive firmness of the adhesions. The left ovary could only be removed by taking a piece of gut with it; there was salpingitis on the left side; the kidneys showed fatty and amyloid changes, although in this case an examination before death had failed to reveal any albumen. But the diagnosis of the amyloid kidney is not always possible, and in this case especially, there was nothing to point to it, as there was no history of suppuration or syphilis, or any of the diseases which usually precede waxy degeneration.

The nervous mechanism and physiological metamorphosis were so interfered with by the primary shock and the prolonged etherization that increased work was thrown upon the kidneys, which after a short time, because of their already crippled condition, failed in the task allotted them, thus allowing the system to become surcharged with the effete materials, and death resulted in consequence.

It is to be regretted that evidences of the nephritic changes were not found before the operation, as this would have precluded the use of ether, and might have had some influence in the outcome of the case.

CASE II. This woman came to me with a history of previous gonorrhea, miscarriage after an instrumental examination, pelvic inflammation, pain in the back and groins, irregularity in menstruation, all of prolonged duration.

On Dec. 11, 1888, an aspirating needle gave a negative result. On the 15th an exploratory operation was performed by two surgeons of unquestionable ability, who, after an examination, determined that the adhesions were too extensive to warrant further interference, so the wound was closed; recovery from the surgical procedure quickly followed. On Jan. 7, 1889, an aspirator needle, introduced *per vaginam*, brought away pus; a bistoury following laid open the sac. Following this operation the patient had trouble with her bladder, passed blood and had pain and tenesmus with each effort at urination. The pains in the right iliac region were relieved for a time, but reappeared when the opening into the sac closed.

On Feb. 3 I was called to re-open the sac, when I found a large swelling to the right and posterior to the uterus. I opened it through the vagina by means of scissors and then left

a drainage tube within it. This tube came away after about a week, when I introduced a Wylie's dilator, for the purpose of re-introducing the tube. When I opened the blades of the scissors almost pure urine gushed out, which was a surprise to me, as I had not before seen or suspected any connection with the bladder. I discovered that the contents of the sac were being largely discharged through the bladder.

The patient was now in a desperate condition, both physically and mentally. Even though we explained all the dangers and difficulties attending an operation, she persisted that she preferred to die rather than to live as she was. So, after considerable solicitation on her part, as well as on that of some of her friends, I consented to undertake the operation.

Her general health was impoverished from the prolonged suffering and disease, so that on the whole it was a very unfavorable case.

In making the operation, March 12, I avoided the old incision and the underlying adhesions by keeping to the right of the cicatrix. There were evidences of inflammation and old adhesions in and about the tubes and ovaries, the process going on in the right ovary to the extent of forming an abscess, which, according to Mr. Tait, is a rare thing for that organ. Upon opening the sac its contents escaped into the peritoneal cavity through the openings previously made, *per vaginam*. This necessitated washing the cavity. The opening in the bladder was not to be found, so, because time was precious, we were compelled to close the abdomen, hoping that the bladder fistula would close of itself. A catheter was left in the bladder for two days, draining away pus and urine. The patient did well for a time afterwards. On the third day her bowels were moved by an enema and Seidlitz powder. On the 4th day I discovered suppuration in the abdominal wound, which was opened and washed with bichloride solution. On the 5th day septic infection manifested its presence in the high fever and continuous perspiration, but soon afterwards she began to improve, and on the 22nd day after the operation, was walking on the street.

### Discussion.

Dr. Fulton.—I once opened the abdominal cavity, and in doing so I opened the bladder. Since that time I have been very careful about examining the position of the bladder prior to the operation.

While the Doctor was reading his paper the idea struck me that in Dr. Crowell's case the bladder was unfortunately opened as it was in my case. In abdominal troubles where there has been pelvic inflammation, you sometimes cannot tell, even after you have examined it, just where the bladder is.

Dr. Carson.—Some one made the remark, which I cannot believe, that all abdominal sections are exploratory. I think that that day is past. In view of the many operations that have been performed, enlarging our experience up to the present time, we are now enabled to diagnose what is in the abdomen before we make the incision.

Dr. Crowell.—In the first case I concede that I exercised undue efforts in removing the diseased condition; had I to perform a like operation again, I would exercise less of such effort in removing the offending organ; however, I should not retire until I had made every legitimate effort for that purpose.

In the second case an operation had been performed by men superior to myself, and they had determined that it was irremovable, and with good reason. A serious complication was the fact that we had made an opening for the evacuation of the pus through the vagina. I wish to condemn that method. The general practitioner decries so much the abdominal operation, but I believe all such abscesses are only to be treated by abdominal incision; consequently when we tamper with the case by aspiration, we expose the patient to danger.

Dr. Fulton refers to the opening into the bladder; I have seen many of them opened, but I do not do it, and do not expect to do it. In this case a previous diagnosis of pyo salpynx had been made. I claim that it is not

always possible to make a diagnosis before entering the cavity.

Two Cases of Cesarian Section by the Senger Method. By H. H. Vinke, M. D., St. Charles.

The first case was a primipara æt. 20, and had a severely contracted pelvis, the result of hip-joint disease in her youth. At the time of the operation, the patient had become much exhausted, owing to prolonged suffering, and many ineffectual attempts at delivery by the forceps and the extensive use of chloroform and morphine. The operation was done under the very unfavorable conditions of litttle light supplied by one lamp at the hour of midnight. However, the several steps of the operation were successfully carried out and the child was made to breathe, after some efforts had beon made in that direction. The patient rallied well, but suffered considerably afterwards and she could only obtain relief from the use of full doses of morphine, of which she got more than was good for her. Drowsiness followed and grew more pronounced, merging finally into somnolency, and notwithstanding the use of stimulants and restoratives, she died 70 hours after the operation. Had the operation been done earlier and had less morphine been used the patient would have had a better chance for recovery.

The second operation was done on a young woman, æt. 21 who had been in labor 20 hours, and the forceps had been applied 4 or 5 times. They invariably slipped, and during one of the attempts at delivery by this method, the vagina was extensively torn. This complication rendered any further attempts at delivery through the vagina so hazardous that the dangers to the mother from craniotomy were considered greater than those incident to a Cesarian section. This operation lasted 45 minutes and did not depress the patient to a very great extent. The signs and symptoms of peritonitis supervened. Sulphate of magnesia was given in large doses, but without effect. She died on the third day, in my opinion from what the German authors term "Darm Paralyse," a condition which is sometimes met with after abdominal sections. Both children lived and grew hearty.

While regretting the fact that an examination of the urine was not made in the first case, thus enabling us to say how much bearing a possible kidney lesion may have had on the result, I am convinced that the use of morphine is always contraindicated after grave operations, as it has a tendency to lower the vitality of the patients.

The different steps in the operation were, in brief, these;

1. Opening of the abdomen, the incision extending from 3 inches about the umbilicus to within 1½ inches of the symphysis pubis.

2. Turning of the uterus out of the abdomen and applying a rubber tube to control hemorrhage.

3. Opening of the uterus and removal of the child and placenta.

4. Suturing the uterus.

5. Placing the drain down into the *cul-de sac* of Douglass.

6. Closure of the abdominal wound and the application of some simple dressing.

In summing up his conclusions as to the relative influence of Cesarian section, and craniotomy and turning, the author expressed himself as follows:

Turning is of course limited by the amount of contraction present and it is doubtful whether it should be resorted to in cases where the antero-posterior diameter is less than 3 inches, and it is often impossible in a comparatively roomy pelvis in cases where the membranes have ruptured hours before the turning is attempted. Craniotomy may be carried out in pelves as narrow as 2 4-5 inches. Cesarian and Porro-Cesarian section become imperative (even aside from the presence of tumor in the vagina, exostoses, cancer of the neck of the uterus, etc.) in cases where the pelvis is so contracted that the child cannot be extracted either dead or alive through the natural passage; when the conjugate diameter is more than 2¾ inches, cephalotrypsy is a safer operation for the mother than Cesarian section; whereas, in

cases where the conjugate is less than 2¾ inches, Cesarian section would seem to be the safer operation for the mother. This of course leaves entirely out of consideration, the welfare of the off-spring. Although it cannot be denied that at the time the life of the mother is much more important than that of the child, it would be well nigh inhuman not to give it some consideration; in fact, there is but little doubt that it is unjustifiable to kill the child when we are certain we can save its life without greatly increasing the dangers to the mother.

DISCUSSION.

DR. KELSO—There is something in common in regard to the requirements of the operations mentioned in the last two papers, and yet the operation of the Cesarian section differs from the other in that that it is called for at once ; it is an emergency operation and consequently the person upon whom the duty of performing it devolves, must do it without special preparation ; and even if I have never seen a laparotomy, rather than allow a patient to go to the grave, I shall not shirk the duty, if it comes. Years ago it was practiced on dead women, and children were saved; long before antiseptic surgery, it was performed very successfully without the use of sutures, drainage tubes, etc. The Senger method is the best one, as Dr. Meigs practices it, not putting any sutures into the uterus and only a few into the abdomen. Certainly, the results are not bad and I would encourage any man to go in when the necessity arises.

DR VINKE.—I am glad to see that the doctor agrees with me. There is no doubt that we should go in and make the attempt in such cases.

## THE NEW ERA EXPOSITION.

Arrangements have all been perfected for the New Era Exposition, to be held at St. Joseph, Mo., from Sept. 3d to Oct. 5th, 1889, under the auspices of the National Railway, Electrical and Industrial Exposition Association. This is to be strictly an agricultural affair, and the prizes offered for the best showing in that line are quite tempting.

## SELECTIONS.

### RECURRENT HEADACHE IN CHILDREN, AND ITS TREATMENT.

BY RUSSELL STURGIS, M. D., BOSTON.

It is not uncommon to see children complaining of headache whose general health is apparently good. Such children are troubled with headache more or less severe, recurring at intervals of days or weeks. You will generally find that the child has been subject to these headaches for a year or more before treatment is sought for this particular symptom; as a rule, it will be found that the patients are of nervous temperament; that they do not sleep well; that they grind their teeth at night, and frequently suffer from bad dreams and nocturnal terrors. Sometimes they may have spasmodic cough, particularly at night, even if there be no sign of pharyngeal or laryngeal irritation sufficient to account for such a cough. It may be noticed that the child dislikes to keep quiet, and will change the position of its hands frequently, and shift its weight uneasily from one foot to the other while being examined. In temper the child is apt to be fretful. Nothing particular is to be noticed about the face, except a peculiar heavy expression about the eyes. Warner thinks this is due to lack of tone in the orbicularis palpebrarum muscles, giving an appearance of flabbiness to the lower eyelid; the skin hanging too loose, with an increase in the number of folds, and in place of falling neatly against the lower lid as a convex surface, falling more or less in a plane from the ciliary margin to the lower margin of the orbit, a condition best seen in profile. This heavy expression of the eyes is not, however, noticed in all cases of recurrent headache. The headaches, as a rule, come on in the morning, though the child may have seemed perfectly well on going to bed. The pain is generally localized in some particular part of the head, frontal region, either side, or at the vertex, being rarely in the occipital. The pain is usually severe enough to prevent

work or play. We may meet with optical illusions of sparks or spots and bands of color. The child generally feels chilly and lies curled up in a chair near the fire. The picture is like that of migraine in adults, with this difference: the pain is more likely in recurrent headache to be across the forehead, at the vertex or at the base; less often seen confined to either side of the head than in migraine. There is rarely nausea and vomiting. Dr. Eustice Smith in his last book, considers the headaches identical with migraine. Dr. Warner is inclined to think them but a mild manifestation of a choreic state, it has been shown, he says, by Dr. Hughlings Jackson and by Dr. Herman that in cases of chorea about 70 per cent of children suffer from recurrent headaches. In my own case I have seen little to support the theory that the etiology of chorea and of recurrent headaches is the same. I have noticed at most a general bilateral uneasiness, if I may so call it, the child appearing fidgety, but able to keep quiet by exercise of the will. In a few cases I have noted an involuntary twitching of the tongue when protruded, also bilateral. In no cases was there any equality of cardiac action, nor were there noticed endocardial murmurs. None of the children had had symptoms of chorea, and none, so far as I have been unable to ascertain, have had chorea since they came under my notice. At one time I treated a few mild cases of chorea as I would recurrent headaches, but was not satisfied with the progress, and returned to other treatment; all of which, to my mind, shows the dissimilarity between such cases of headache as I describe and the recurrent headache noticed in chorea.

The question of heredity may be of importance. In several cases I have found that either the father or mother suffered when young from what they called "sick headache," some of them even now having the ordinary migraine of adults. I think, therefore, that in some cases recurrent headache in childhood may be the precursor of migraine or of congestive headache in later years.

During the last 6 years I have seen some 20 cases of recurrent headache. At first I spent some time over these trying to relieve them by the general methods employed in headache. Not meeting with success, I at last remembered what Niemeyer calls the "fanciful hypothesis" of Drs. Bois, Reymand and Mollendorf, that the pain may be due to excitement of the terminal sensory filaments of the fifth pair by dilatation of the capillary blood-vessels of the dura mater. I therefore tried ergot for its affect on the arterioles. The treatment has been on the whole satisfactory. My custom is to satisfy myself that the headache is not due to gastric or intestinal disorder, to disease of the kidneys, heart, brain or lungs; that it is not due to excessive use of tea or coffee, and that it cannot be accounted for by astigmatism or other abnormal vision. If none of the above causes for headache exist, I prescribe 10 minims of the fluid extract of ergot, generally alone, sometimes with iron. I persevere in the use of ergot for at least two weeks after the disappearance of the headaches. In one or two cases I have kept it up longer. I give below 4 cases which are typical. Cases I and III were brother and sister; they were remarkable for having the heavy expression of the eye extremely well defined. Case II was a very nervous child with the pain referred to the right side, which as a location is somewhat unusual. Case IV had his attacks at night with pain at the vertex, and did not respond readily to treatment.

Case I. (1882).—L. B., female; æt. 13. She is tall, well nourished, but rather pale. She lives in a nice sunny house in a good neighborhood. Began to complain of headaches 3 years ago, but they did not recur with sufficient frequency to make it worth her mother's while to bring her for special treatment for them. Now she has headache as often as 3 times a week, lasting from when she gets up till when she goes to bed. During the attack she never has nausea, but frequently at times she sees "sparks of light and spots of red." The headaches are frontal. Slight astigmatism being detected, she was provided with suitable glasses, which

she wore without diminution in frequency of her attacks. Till January, 1883, I treated her in a general way with tonics, etc., without benefit to her. I then put her upon ergot, and in 2 weeks she was free of her headaches. They returned in October of the same year, but under ergot again they left her, and have not returned. In regard to this case it should be stated that she began to menstruate in the summer of 1883.

Case II. (1884).—J. S., female ; æt. 8; small, black-haired, nervous Irish girl ; not anemic ; well along in her studies ; fond of school and of playing out of doors. I had seen this same child before with headaches, due, as I supposed, to tea. Tea had been omitted for 3 months without relief, when she again came to me in March, 1884. She complains solely of headache, which comes on about once in 2 days or a week ; eyes normal. She is unwilling to keep still much more than a half a minute at a time while I talk to her, but can keep quiet when this is insisted on. In 2 weeks her headaches were relieved and have not returned.

Case III. (1885),—Male ; æt. 10 ; brother of Case I.; complains of headaches of the some character that she had ; the pain being frontal as with her. There is no astigmatism. He has nausea at the end of his attacks, which come about twice a month, and which last 1 or 2 days. Present attack disappeared under ergot and has not returned.

Case IV. (1886).—J. M., æt. 11; Irish boy; fond of play but not of school ; general health all that can be desired. Free from headache during the day ; at night is waked up by pain at the vertex. He thinks the attacks last about an hour and then pass off to recur again before morning. He has 2 bad nights a week. This case was examined with particular care, but nothing was found to account for the headaches. They gradually yielded to treatment after 4 weeks. In this case ergot was continued 4 weeks after last headache, making nearly 2 months under half a drachm of ergot a day. No ill effects were noticed from the prolonged use of ergot. — *Arch Pediatrics.*

## THE PREVENTABLE, NON-HEREDITARY, CONTAGIOUS AFFECTION, TUBERCULOSIS.

Dr. Hermann H. Biggs, J. M. Prudden and Henry P. Loomis, Pathalogists of the Board of Health of New York, who were requested to formulate a brief and comprehensive statement regarding the nature of the disease, tuberculosis, have made their report, which presents the latest established views on the subject in such a clear and succinct manner, that it bears reproduction here, almost in its entirety:

The disease known as tuberculosis, and when effecting the lungs, as pulmonary tuberculosis (consumption) is very common in the human being and in certain of the domestic animals, especially cattle. About one quarter of all the deaths occuring in the human being during adult life, is caused by it, and nearly one-half of the entire population at some time in life acquires it. The disease is the same in nature, in animals and in man, and has the same cause.

It has been proven beyond a doubt that a living germ called the " tubercle bacillus " is the cause and the only cause of tuberculosis. Tuberculosis may affect any organ of the body, but most frequently first involves the lungs. When the living germs find their way into the body they multiply there, if favorable conditions for their growth exist; and produce small new growths or nodules (tubercles), which tend to soften. The discharges from the softened tuberculosis, containing the living germs, are thrown off from the body. In pulmonary tubercles the discharges constitute, in part, the expectoration. The germs thus thrown off do not grow, outside the living human or animal body, except under artificial conditions, although they may retain their vitality and virulence for long periods of time, even when thoroughly dried. As tuberculosis can only result from the action of these germs, it follows from what has just been said that when the disease is acquired it must result from receiving into the body the living germs that have come from some other

human being or animal affected with the disease. It has been abudantly established that the disease may be transmitted by meat or milk from the tubercular animal. The milk glands in the milk cows often become affected with the disease when their lungs are involved, and the milk from such animals may contain the living germs, and is capable of producing the disease. Among stall-fed dairy cows 20 or 30 per cent are sometimes found to be affected with the disease. Tuber cular animals are also frequently killed for food. Their flesh sometmes contains the germs, and if not thoroughly cooked is capa ble of transmitting the disease. Boiling the milk and thoroughly cooking the meat destroys the germs. Although the meat and milk from tubercular animals constitute actual and important sources of danger, the disease is acquired, as a rule, through the communication from man to man.

Tuberculosis is commonly produced in the lungs (which are the organs most freqnently affected) by breathing air in which the living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption, contains these germs, often in enormous numbers. This material, when expectorated, frequently lodges in places where it afterwards dries, as on the streets, floors, carpets, clothing, handkerchiefs, etc. After drying, in one way or another, it is very apt to become pulverized and float in the air as dust.

It has been shown experimentally that dust collectad from the most varied points, in hospital wards, asylums, prisons, private houses. etc., where consumptive patients are present, is capable of producing tuberculosis in animals when used for their inoculation. Such dust may retain for weeks its power of producing the disease. On the other hand, dust collected from rooms in institutions or houses that have not been occupied by tubercular patients, does not produce the disease when used for the inoculation of animals.

These observations show that where there are cases of pulmonary tuberculosis under ordinary conditions, the dust surrounding them often contains the " tubercle bacilli," and persons inhaling the air in which this dust is suspended may be taking in the living germs. It should, however, be distinctly understood that the moist sputum received in proper cups are not elements of danger, but only the dried and pulverized sputum. The breath and moist sputum are free from danger, because the germs are not dislodged from moist surfaces by currents of air. If all discharges were destroyed at the time of exit from the body, the greatest danger of communication from man to man would be removed.

It then follows that tuberculosis is a distinctly preventable disease. It is a well-known fact that some persons, and especially the members of certain families, are particularly liable to tuberculosis, and this liability can be transmitted from parents to children. So marked and so frequent is this liability, and so frequent is the development of the disease in particular families, that the affection has long been considered hereditary. We now know that tuberculosis can only be caused by the entrance of the germ into the body, and that this transmitted liability simply renders the individual a more easy prey to the living germs, when once they have gained entrance.

The frequent occurrence of several cases of pulmonary tuberculosis in a family, is then to be explained, not on the supposition that the disease itself has been inherited, but that it has been produced after birth by transmission directly from some affected individual. When the parents are affected with tuberculosis the children from the earliest moments of life are exposed to the disease under the most favorable conditions for its transmission, for not only is the dust of the house likely to contain the bacilli, but the relationship also between parents and children, especially between the mother and child, are of that close and intimate nature especially favorable for the transmission by direct contact.

If, then, tuberculosis is not inherited the question of prevention resolves itself prin-

cipally into the avoidance of tubercular meat and milk and the destruction of the discharges, especially the sputum of tubercular individuals. At to the first means of communication, those measures of prevention alone answer the requirements which embrace the governmental inspection of dairy cows and of animals slaughtered for food, and the rigid exclusion and destruction of all those found to be tubercular.

For the removal of the second means of communication, *i. e.*, the sputum of tubercular individuals, the problem is simple when the patients are confined to their rooms or houses; then wooden or pasteboard cups with covers should always be on hand for the reception of the sputum. These cups are supported in simple racks, and at least once daily, or more frequently if necessary, should be removed from the racks and thrown with their contents into the fire. (A cheap and efficient cup answering this purpose is now on the market, and is supplied by the druggists.)

The disposition of the expectoration of persons who are not confined to their rooms or houses is a far more difficult problem.

The expectoration certainly should not be discharged on the street, and the only practical means for its collection seems to be in the hankerchiefs, which, when soiled, should at the earliest possible moment be soaked in a solution of 5 per cent carbolic acid and then boiled or washed. Hankerchiefs thus soiled are exceedingly dangerous factors in distributing tubercle bacilli, for when the sputum becomes dry it is easily separated in flakes from the cloth, and then soon becomes pulverized and suspended as dust.

It becomes evident from what has been said that the means which will most certainly prevent the spread of this disease from one individual to another are those of scrupulous cleanliness regarding the sputum. These means lie largely within the power of the affected individual. It is furthermore to be remembered that consumption is not always, as was formerly supposed, a fatal disease, but it is in very many cases a distinctly curable affection. An individual who is well on the road to recovery may, if he does not with the greatest care destroy his sputum, diminish greatly his chances of recovery by self-inoculation.

While the greatest danger of the spread of this disease from the sick to the well is in private houses and in hospitals, yet, if this danger is thoroughly appreciated, it is for the most part quite under control, through the immediate destruction of the sputum and the enforcement of habits of cleanliness. But in places of public assembly, such as churches and theaters, particularly the latter, conditions are different and the safety would seem to depend largely upon a dilution and partial removal of the floating and possibly dangerous dust by means of adequate ventilation.

Rooms in private houses and hospital wards that are occupied by phthisical patients should from time to time be thoroughly cleaned and disinfected, and this should always be done after they are vacated, before they are again occupied by other individuals. Steamship companies should be obliged to furnish separate apartments for consumptive persons, so that no person in the exigencies of travel need be forced to share his room with one who might be a source of active danger to him.

We desire to especially emphasize the following facts:

1. That tuberculosis is a distinctly preventable disease.

2. That it is not directly inherited, and

3. That it is acquired by the direct transmission of the tubercle bacillus from the sick to the healthy, usually by means of the dried and pulverized sputum floating as dust in the air.

The measures, then, which are suggested for the prevention of the spread of tuberculosis are:

1. The security of the public against tubercular meat and milk, attained by a system of rigid official inspection of cattle.

2. The dissemination among the people of the knowledge that every tubercular person may be a source of actual danger to his asso-

ciates, if the discharges from his lungs are not immediately destroyed or rendered harmless; and

3. The careful disinfection of rooms and hospital walls that are occupied or have been by phthisical patient.

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—*N. Y. Commercial Advertiser.*

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## THE DIAGNOSIS AND TREATMENT OF HEADACHES ACCOMPANIED BY DIMINISHED OR INCREASED BLOOD-PRESSURE.

BY E. LLOYD JONES, B. A., M. B., B. C. CAMB.

The observations described in this paper are the outcome of an accidental discovery, namely, that a headache from which I happened myself to suffer was completely removed while sipping cold water. Remembering that Kronecker had shown that during the act of sipping the pulse was accelerated, I was led to ask myself whether it was not likely that under these circumstances the blood-pressure was also raised, and the blood supply to the brain increased; and also whether the headache in question was not one accompanied by "cerebral anemia." This appeared to be a fit starting-point for an investigation both into the physiological effects of sipping cold water upon the circulation, and into the relations between alterations in blood-pressure and headache. I have, moreover, sought to determine whether the effects of sipping cold water offered any indications as to the line of treatment which should be pursued in any given case.

On making observations upon about 200 cases of headache, a certain number of these were found to be relieved during the act of sipping, while at the same time a certain number of the patients were not relieved, or stated that their pain was increased. Assuming that the headache which was relieved by this act was due to diminished local or general blood-pressure, at the recommendation of Dr. Lauder Brunton I began to measure the blood-pressure in these cases by means of the sphygmomanometer of Von Basch.

Kronecker attributed the acceleration of the pulse on sipping cold water to abolition of the inhibitory action of the vagus on the heart. But further than this, I have found that by carefully using the sphygmograph one is enabled to show a distinct rise of blood-pressure during the act of sipping, in precisely the same way that the respiratory changes in blood-pressure are often exhibited by the same instrument. In the tracings given this increase of blood-pressure during the act of sipping is well shown, together with the acceleration of the pulse-rate upon which it apparently depends.

But further, I have noticed that after the sipping is stopped not only does the pulse return rapidly to its original rate, but there is as it were a reaction, and about one minute after the cessation of sipping the pulse is slower than it was before the act; while the blood-pressure also decreases, becoming often lower than before the commencement of sipping. Just as the respiratory variations in blood-pressure are often demonstrated, and at other times leave no record on the tracing, so these effects of sipping vary to some extent in constancy; the variations are not, however, sufficient in degree to throw any doubt upon the conclusions above stated.

Again, the taking of food has been shown to increase the blood-pressure sometimes, but not invariably; and I have found that the specific gravity of the blood becomes less very soon after the consumption of a mixed meal without alcohol; the amount of plasma increases at the same time, while there is an apparent diminution in the number of red corpuscles. It appears likely, therefore, that the total volume of blood in the body can be temporarily increased by taking mixed food or water. Now the blood-pressure is known to be increased after a meal, hence it appears likely that the effect of consuming water is to increase the blood-pressure also. If this is

the case, and my own experiments lead me to believe it, then we have a third more remote effect of sipping cold water, namely a rise in blood-pressure due to the absorption of the water. This hypothesis is in accordance with the views of Regecxz, who maintained that changes in general blood-pressure were more due to increased or diminished secretion, excretion or assimilation, than is usually supposed,

It appears, therefore, that the sipping of cold water has the following effects, namely:—

1. To cause during the act of sipping, an acceleration of the pulse, due to the abolition of the normal vagus inhibition of the heart, and to cause a temporary rise in blood-pressure.

2. To cause the original rate to be resumed as soon as the sipping has been discontinued, and to cause a further slowing of the pulse, so that—finally—the pulse-rate is slower than if the sipping had not been resorted to. During this period the blood-pressure falls, and frequently becomes lower than it was when the sipping was commenced. This return of the blood-pressure to its former amount has generally become complete by about the sixteenth beat after the cessation of sipping.

3. To cause the volume of blood in circulation to be increased, and thereby to cause an increase of blood-pressure for a certain time. This effect is most marked some time after drinking, being generally most noted about half an hour after consumption of the water. To produce this effect it is advisable to drink at least a tumblerful.

These points are of great importance in relation to the effects of sipping upon headache. In persons with low-pressure headache the primary effect is to relieve the headache during the act of sipping, the secondary to aggravate it or cause it to return during a short period commencing about a quarter or half minute after sipping, and if enough water be taken the tertiary effect is sometimes observed, the cure or relief of the headache about half an hour later.

Among patients suffering from high-pressure headaches a very few stated that they were relieved while sipping cold water; while, as a rule, the headache was aggravated or remained unaltered while so doing. In many cases a complaint was made that it caused a "beating," and in my own person I fortunately had an opportunity of verifying the observation. Further, some of the high-pressure headaches are relieved for a time, shortly after discontinuing the act of sipping, and this I attribute to the secondary slowing of the pulse already referred to. I have not observed whether there is,as might be expected, a tertiary effect in high-pressure headaches, giving rise to increase of pain.

Increase of blood-pressure may also be brought about by mastication, by smelling irritant substances, by smoking, by exercise short of fatigue, by exposure to cold wind, by general excitement. The blood-pressure is greater in the sitting than in the erect posture, and in lying than sitting (Friedman); it is increased by the taking of food in quantity, and temporarily by hot or cold bathing (Lehmann). All these, like the sipping of water, have a tendency to affect headaches, sometimes causing temporary or permanent amelioration, in other cases aggravating the pain.

Thus, low-pressure headaches occurring in myself have been cured by exposure to a keen wind for a few minutes, by smoking, by excitement, and by taking food. It is well known that the headache of acute alcoholism is often cured by "going into the fresh air;" while at the same time it is supposed to accelerate intoxication. With the latter fact we may correlate the statement often made that a glass of beer sipped through a straw produces inebriation when it will not do so if taken otherwise. The act of sipping it raises the blood-pressure; exposure to cold air produces the same effect; in each case the blood-supply to the brain appears to be increased.

The posture preferred by the patient is another index of the condition of the cerebral blood-supply. In one case relief was greatest when the patient remained on hands and knees with the head bored into the pillow,

and the headache which is relieved during the act of sipping cold water is relieved by the recumbent posture.

In some future paper I hope to give reasons for believing that there are some persons who suffer from a form of "anemia" characterized not by a diminution in the number of red corpuscles in the blood, but by a diminution of the total volume of blood in the body. These persons have often an excessive number of red corpuscles to a cubic millimeter of their blood, and they are very apt to suffer from low pressure headaches, and from other symptoms attributable to low blood pressure.

It would be untrue to say that the effects hitherto described in this paper are constant; they do not appear to be so, and this could hardly be expected. Still there lie therein, I think, certain aids in the diagnosis of headaches; while attention to the condition of blood pressure will often afford indications for treatment.

In the present paper I will content myself with summing up the results I have obtained as to the treatment found most efficacious in these two types of headache.

First, with regard to the low pressure headache.

In acute cases, *e. g.*, the toxic headaches from alcohol and tobacco, exercise and food are potent remedies. Relief is obtained from cardiac stimulants such as the following:—

℞ Spiritus Ammoniæ aromatici ʒss,
Spiritus Chloroform ♏x,
Aquam ad ℥i.

Antipyrin in small doses (gr. iii), repeated if necessary, is also useful. In more chronic (recurrent) cases prolonged treatment by drugs is often necessary. If the face, lips, and mucous membranes are pale, and if the blood is found to contain a diminished number of red cells per cubic millimeter, or if its specific gravity be below the normal, iron is generally useful as an adjunct; but the headache is often thereby aggrovated. I have found it well to give with it Tr. Digitalis ♏i to ♏iii, seeing the patient once daily, and omitting the digitalis as soon as the headache is cured. I have observed no slowing of the pulse in any case thus treated, and the results have been uniformly encouraging. If the patient is pallid, but the ears and lips are red or excessively red, iron is of little service. In these cases I have found Tr. Digitalis ♏i to ♏iii very efficacious, the bowels being kept open if necessary. These are the persons already referred to, who have an excessive number of red cells with an increased specific gravity of the blood; they are very prone to low-pressure headaches, and they are very much relieved by rest and change. In one such case a trip to the seaside was accompanied by a gradual fall in the number of red cells per cmm., due, I take it, to an absolute increase in the amount of plasma, and of the total volume of blood in the body.

These persons are in vain treated with iron, although they often appear pale. Rest and dieting are sufficient to procure the end in view. While making some experiments upon the specific gravity of blood in health, I noted this tendency to an apparent increase in the absolute number of red corpuscles in my own blood at the end of a term's work, at a time when I was exceedingly prone to headache. At the same time there was a large amount of indican in the urine; whether this bore any important relation to the blood-state or to the headache it would be interesting to know.

In acute high-pressure headaches the bowels must be kept open,but purging is not, as a rule, serviceable. The nitrite of amyl carefully administered in a very dilute state is very useful. More useful, perhaps, because the dose can be more easily regulated, is nitroglycerin. It is useful alike in acute and recurrent cases.

In anemic girls with severe headache it is poor consolation to tell them at the outset that their headaches will go when their blood-condition has improved, and I have at the outset given them nitroglycerin, with great relief. It should be given in doses of one six hundredth of a minim, one minim of a one-per cent solution of the drug being mixed with water in a six ounce bottle, and two table-spoonfuls being taken for a dose. This dose may be given twice daily, but only

when the headache is bad, and more than six doses should not be ordered.

In recurrent high-pressure headaches alkalies are, I find, most beneficial; but many of these occur in anemic young women, and in these cases iron is also indicated. It is best not to give the iron alone, but in combination with an alkaline carbonate, for it has otherwise a tendency to increase headache. Such a mixture as the following I have found useful:—

℞ Sodi bicarbonatis gr. x,
Ferri et Ammonii citratis, gr. v.
Spiritus Chloroformi, ♏ x.
Aquam Menthæ viridis ad ℥i.

M. *Fiat haustus, ter die ante cibos semihora sumendus.*

In persons of the uric acid diathesis a mixture containing 20 grains of ciirate of potassium with 10 grains of salicylate of sodium is useful.

Among the headaches collected for this paper were a large number accompanied by the presence of tenderness–in out patients' phraseology the complaint was "When I comb my hair I can't bear it." Dr. Lauder Bruton pointed out that the nitrite of amyl was useful in cases of neuralgia of the scalp, and in some other cases of headache, and his results are markedly borne out by many of the above cases.

I cannot conclude without expressing my sincere gratitude to Dr. Lauder Brunton, who has throughout shown me great kindness, by furnishing the instruments with which the observations were made, and by making many invaluable suggestions —[*The Practitioner.*

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## AHITHERTO UNDESCRIBED CAUSE FOR THE FAILURE OF THE RADICAL CURE CF HYDROCELE BY INJECTION.

BY CHARLES B. NANCREDE, M. D.,
Surgeon to the Episcopal Hospital, Philadelphia.

Read before the Philadelphia Academy of Surgery, May 6, 1889.

It hardly needs an apology for recording what appears to be a new pathological fact, yet the radical cure of hydrocele is usually so readily effected by the methods now in vogue that a paper on such a subject seems out of place. From the very frequency of the disease and the ease with which a cure is effected, the surgeon too commonly views it as a trivial affection and unhesitatingly promises a cure by the injection of iodine or carbolic acid, unless certain well known contraindications exist, such as thickening of the sac, rigidity of its wall from calcareous deposits, etc. But despite the absence of these complications there are a certain number of cases where the confidently expressed opinion of the surgeon is not verified by the result, for the patient is either not benefited at all, or the case relapses in a short time, damaging the surgeon's reputation and shaking his confidence in a thoroughly reliable and safe remedy, provided the condition I propose describing be not present. Although Mr. Curling mentions one case where a "loose cartilage" was evacuated by incision, and states that certain methods of treatment are applicable in the absence of these bodies, he makes no mention of the condition I have observed, nor does he suggest the possibility that the cartilages which he so vaguely mentions may stand in a causative relation to relapses after the operation for a radical cure by the injection of iodine.

Anatomists have described under the name of hydatids of Morgagni certain fringed or pedunculated bodies situated at or about the junction of the epididymis and testicle. These probably at times contain cartilage cells, which, doubtless, when accidentally detached, form the "loose cartilages" so commonly referred to by writers as an obstacle to the radical cure of hydrocele by injection, but which are so rarely detected in practice now-a-days —in fact, I think, judging from an extensive search through the literature of the subject, that most athors have copied the statements of their predecessors.

Whether containing cartilage cells or not, it is evident from the two cases which I report, that these fringes may have calcareous

matter deposited in or upon them, although the remainder of the serous sac may not be even thickened, and that the constant me chanical friction will originate and certainly keep up disease after an attempted radical cure by injection, until removed, or we have resorted to such measures as will produce total obliteration of the sac—which, it is well known, the method by injection often fails to do.

Both patients suffered much pain—an unusual symptom in hydrocele; both had recurrence after a radical operation by injection had been attempted, but it will be noticed that the effusion was located chiefly at the upper portion of the cavity, the testicle lying below, contrary to rule.

This was so marked in the first case which I saw for Dr. Barton, during his absence from the city, that I considered it to be probably an encysted hydrocele of the testicle or of the cord. It is a fair inference, then, that the injection had so altered the serous membrane that its secreting and absorbing power had again become normal—for there were no adhesions, except in the immediate neighborhood of the constant source of mechanical irritation. This is all the more probable since one patient stated that the size of the swelling varied. Probably such concretions as well as loose cartilages are more common than is supposed, because few modern surgeons incise or excise the tunica vaginalis testis.

Before briefly reporting two cases, I would suggest the propriety, since antiseptic methods have lessened the dangers of the cutting operation, that when failure occurs after injection, even where no thickening of the sac —calcareous or otherwise—is detectable, an incision at least large enough to admit the finger should be made, the cavity explored for calcareous concretions, etc., and a large drainage tube passed through another puncture seton-wise, a practice successfully revived, I think, by my colleague, Dr. Barton —full antiseptic precautions being of course taken.

As this paper is merely a report of cases observed, with practical points suggested by them, no attempt will be made to consider exhaustively the operative surgery of this disease.

By Dr. Barton's kindness I have been furnished with the following notes of the case upon which he operated in my presence, and which first called my attention to this peculiar pathological condition.

Case I.—The patient, Mr. L., of South Carolina, had suffered three years with great pain in his testicles—especially the right one. This pain was only felt when he did not sup port the testicles. When sitting down with the testicles resting upon his legs he was entirely free from pain; but as soon as he stood up he suffered intensely, and was obliged to support the scrotum with his hand. His usual method of progression was with one hand in his pocket supporting the scrotum. His infirmity compelled him to confine himself to his store and to his boarding house. His expressions of pain, his nervousness and his mental excitement were such as to lead one to suppose that he was the victim of some mental trouble. Both testicles were enlarged and tender, particularly the right one. In the right tunica vaginalis, there was a small hydrocele, containing about one or two ounces of fluid, situated at the upper part of the vaginal sac. He had consulted a number of physicians and the hydrocele had been operated on twice—once by injection of iodine—but without benefit.

Under ether and with antiseptic precautions I explored the tunica vaginalis, liberated the fluid and explored the cavity with the finger. Directly beneath the testicle a bony mass about the size, shape and hardness of a shriveled grain of corn was found. Its attachments were so slight that it came away without effort and without our being able to say if it was attached to the visceral or parietal layer of the vaginal tunic. No further growths were found. A drainage tube was introduced, antiseptic dressings were applied, and he recovered without accident. Before going home he was able to walk about the city, which he did morning, noon and night,

taking more exercise of this kind in a few days than he had done in several years previously. He had no pain, though the testicle was still slightly tender on pressure.

CASE II.—My patient was an elderly man who had suffered with a moderate sized, very painful hydrocele for an indeterminate time. In April, 1888, Dr. Simes operated for the radical cure by the injection of carbolic acid. Severe inflammation followed, producing extensive sloughing of the scrotum and presumably of a portion of the vaginal tunic. When seen over a month later the hydrocele seemed cured. Some time during the next six months —for I could get no very definite statement from him—the disease recurred, with the old symptoms of constant pain on movement. On coming under my care on April 1, he showed me a small hydrocele, closely resembling in situation and appearance that first described.

Taught by the case seen with Dr. Barton, I opened the swelling by a free incision and considerably to my astonishment, at the junction of the upper part of the epididymis with the body of the testicle, I felt a little calcareous body like a miniature cock's-comb. I removed this with the finger, dissected out a portion of the tunica vaginalis, and, partially suturing the tunica and skin, drained the sac-cavity. Antiseptic methods carried my patient through with no untoward accidents, and at the last reports he was well and free from all his former suffering.

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## A NEW METHOD FOR THE ARREST OF CANCER.

Dr. J. Inglis Parsons contributes an article to *Brit. Med. Jour.* of April 27, entitled "Arrest of Growth in Four Cases of Cancer by a Powerful Interrupted Galvanic Current." Dr. Parsons writes in a candid and scientific spirit and his observations are likely to arouse attention.

Dr. Parsons has a theory that, in cancer, the normal tissue-cells have escaped from the inhibitory control of the nervous system, and hence proliferate. His reason is interesting, and is as follows:

"First, with regard to the nature of cancer. The earliest possible pathologists regarded it as a dyscrasia, or altered constitution of the blood, then followed the embryonic cell theory, finally, the microbe was made to bear the burden of further misdeeds.

"Virchow, with his dogma, '*Omnis aellula e cellula*,' demolishes the first. The second, propounded chiefly by Cohnheim, will not account for all tumors, even if it be admitted as possible that embryonic tissue can remain for a quarter to a half a century in the human tissues, without partaking in the changes undergone by other cells in the body. Third, all attempts to find the microbe have failed.

"The hypothesis now brought forward is founded on the fact that all the cells of the body possess a latent capacity which enables them, under various stimuli, to proliferate and form new tissue. Under normal conditions this capacity remains dormant, or is exercised to the extent of keeping pre-existing structures in a living condition. But let an injury or irritation to some part of the body occur, and this latent capacity ceases to be dormant, and an active formation of cells takes place, until the injury is repaired or the irritation removed. Now this formation of new tissue is essentially a new growth, although not a tumor. The capacity for forming it is common to all the tissues of the body, and it ceases when the necessity for its continuance has disappeared. This appear to show some controlling influence, probably by the nervous system. Is it not then possible that all tumors are in the first instance composed of cells formed in the normal process of repair, but that having escaped from the nervous system, they take an independent life, and continue to proliferate and develop without check, just as all living cells are capable of doing ad infinitum under favorable conditions?"

One out of several objections which might be raised to this view is that, according to it, cancer ought to develop in parts of the body deprived by accident or disease of their ner-

vous supply. That this is not the case we know, and it can only be said in reply, that one cannot entirely remove nerve-influence from any part without also entirely cutting off the vascular supply.

Whatever be the theory, Dr. Pasons reports his cases, in which, practically, some interesting results were obtained.

Three of the patients suffered from cancer of the breast, one from cancer of the cervix uteri. One of these is reported eight months, one six months and two three months after treatment. In all quiescence of the previously active cancerous growth was secured. The technique of the operation is as follows:

The patient is anesthetized; the current is then passed through the tumor and all of the tissues for some inches around it by means of fine, insulated needles, so as not to injure the skin. A battery of seventy cells with an electro motive force of 105 volts is used; the intensity of the current to commecce with is 10 milliamperes, gradually increased to 600 milliamperes and flashed through the growth in every direction from fifty to one hundred times, according to circumstances. The pulse and respiration were carefully watched. One out of the four cases treated, a woman, æt. sixty-three years, with extensive carcinoma of the left breast, a precystolic bruit, and weak, intermittent pulse, was unable to stand more than 250 milliamperes, and for this reason; when the current is applied to the left breast electrical stimulation of the heart occurs, and if this organ is healthy, an increase in the strength of its contraction appears to take place after its passage; but with the patient who had cardiac disease the improvement continued up to a certain point, and then the intermittency increased and great irregularity occurred.—*Ed. Med. Rec.*

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Stretching the Spinal Accessory Nerve in Spasmodic Wry-Neck.—In the *Glasgow Medical Journal* Dr. J. C. Benton reports a case of spasmodic wry-neck which he treated by stretching the spinal accessory nerve.

The patient was a young lady, æt. 21 years, who had been subjected to varied and extensive medical treatment without producing any favorable results.

Dr. Benton accordingly decided to stretch the spinal accessory nerve.

He exposed the nerve behind the sterno-mastoid at the point where the nerve passes under the muscle.

After the operation the spasms were completely stopped for a forghtnight, returning then, they were slight in comparison to what they had been before the operation; "And in fact," says Dr. Benton, "she can now sit and speak without having a spasm, and it is only when greatly excited that she is troubled."

Neurectomies, neurotomies and nerve-stretching are each sometimes productive of cures, or at least decided relief from painful and distressing symptoms.

A number of cases similar to the one of Dr. Benton have been reported with varying success.

Dr. Benton thinks neurotomy advisable, should the spasms return with severity after stretching.

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Improved Treatment for Tinea Tonsuraus.—The *Med. Rec.*, June 1, gives the principles of Dr. Harrison's treatment of this affection as presented by him in the *Brit. Med. Jour.*

He uses two sets of agents—first, a solvent, by the action of which the fungus is exposed in its hiding places in the cuticle and hair-follicles; and, second, a parasiticide to come in contact with and destroy the fungus.

For the first, he recommends a solution of liquor potassæ, spts. wine and iodide of potassium; for the second, a solution of mercuric chloride in spirits of wine and water.

After the application of the first solution the softening action of the alkali allows the iodide to soak into the parts, afterward combining with the mercuric solution forming, in the tissues about the fungus a very excellent parasiticide, the bin-iodide of potassium.

He finds that ointments are better, however, because of the fact that they are more

readily applicable, and are longer retained in contact with the affected parts.

The ointment is composed of the following ingredients: Caustic potash, gr. ix., carbolic acid, gr. xxiv., lanolin and oil cocoa nut, each ℥ss. M. Rub well together and add some essential oil if desired.

To be applied night and morning.

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On Inflammatory Disease of the Seminal Vesicles.—Mr. Jordon Lloyd reports (*Brit. Med. Jour.*, April 20, 1889) several cases of disease of the seminal vesicles, as to which he makes the following remarks:

Seminal vesiculitis is usually secondary to mischief in the urethra. It is a common accompaniment to gonorrheal epididymitis, and originates in a precisely similar manner. When the inflammatory process has crept from the urethra along the common ejaculatory duct to its termination, it is as likely to proceed along the short seminal tube to the vesicle, as along the twenty-four inch vas deferens to the epididymis. It commonly extends along both these structures. Mr. Lloyd has seen the vesicles inflame secondary to urethritis, set up by the passage of a bougie, by the presence of a stricture, and after coitus with a leucorrheal woman. He has seen both vesicles suppurate in one case where their inflammation appeared to be primary; at least there was no antecedent cause discovable in the urethra. When acute inflammation attacks a vesicle it gives rise to a swelling at the base of the bladder, the greater part of wnich is due to effusions of inflammatory products into the perivesicular connective tissue rather than into the cavity of the vesicle itself, just as in epididymitis the bulk of the enlargement depends upon inflammatory infiltration into the connective tissue between the tubules of the epididymis.

Seminal vesculitis, like acute epididymitis, most frequently terminates in resolution. It sometimes ends, however, in suppuration, and, when this occurs, pus may make its way laterally into the ischio-rectal fossa, or may diffuse itself deeply around the rectum (constituting one of the varieties of peri-rectal suppuration) or may discharge itself by the ejaculatory duct, or may open either into the bladder or rectum, but never into both cavities together.

The symptoms of vesicular disease are essentially those of vesical irritability—increased frequency of micturition, attended by more or less pain. They are like those of prostatis, according to Professor Humphry, and consist in uneasiness about the perineum, painful defecation, frequent and rather painful micturition, or retention, painful emissions at night, bloody semen, persistent gleety discharge, and irritability of the bladder and sexual organs.

Zeissel says that the subjective symptoms differ but little from those of prostatitis; but there is one symptom that belongs exclusively to this disorder, namely, erections are well-nigh constant, and so painful as to constitute priapism. According to Lallemand, Gosselin and Pitha involuntary seminal emissions occur.

Objective symptoms are much more reliable, and are easily elicited by a careful methodical examination. A finger in the rectum recognizes an elongated swelling beyond the prostate, running obliquely upward and outward at the side of the base of the bladder. The swelling is made quite evident to the examining finger when a metal bougie is passed into the bladder and moved from side to side across the tumor. Mr. Lloyd has demonstrated a distended tumor in this way, and has verified the diagnosis by aspirating seminal fluid through the rectum.

The conclusions he is led to by his present experience are as follows:

1. That inflammatory disorders of the seminal vesicles and their ducts are not uncommon.

2. That they are, in many respects, analogous to inflammatory diseases of the Fallopian tubes in women.

3. That while occurring sometimes primarily, they are, as a rule secondary to inflammation of the urethra.

4. That the ejaculatory ducts may become

obstructed, and the seminal vesicles consequently hyper-distended.

That termination by snppuration is exceptional.

6. That when suppuration occurs it should be dealt with by incision from the perineum rather than from the rectum.

7. That gonorrhea is by far the most common originator.

8. That they are frequently concomitant with gonorrheal epididymitis.

8. That they are usually diagnosed as inflammation of the prostate or neck of the bladder.

That while certain subjective phenomena are suggestive of these disorders, their diagncsis can only be made by objective examination from the rectum and bladder.—*Am. Jour. Med. Sci.*

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THE INFLUENCE OF BITTERS ON THE DIGESTION AND ASSIMILATION OF ALBUMINOID MATTERS.—Some experiments made by Leven go to show that the ordinaro bitters (extracts of cinchona, quassia amara, nux vomica, gentian, etc.) promote for a time digestion and assimilation; they are, however, soon followed by loss of appetite and dyspeptic troubles. According to Leven's interpretation, medicaments excite the solar plexus and energize the activity of the gastric glands and muscular movements, but soon produce by exhaustion a diminution of this activity and an irritated and congested state of the gastric mucous membrane.

Several years ago Buchheim and Engel undertook a series of experiments to ascertain the influence of bitter substances on digestion, and concluded that "these substances have no action on the transformation of albumen into peptone, and they oppose fermentation." It is by virtue of this property, according to these physiologists, that bitter acts so favorably in certain diseases of the digestive tube.

Since then Tschelzoff, chief of Professor Botkin's clinic, has taken up anew this interesting question of the influence of bitters on digestion and on the nutrition of the animal organization in general.

His conclusions are "that extracts of the so-called pure bitters, which are usually prescribed with a view of stimulating the secretion of the gastric juice and of aiding digestion, so far from having any beneficial action of that kind, are absolutely injurious, in that they retard the digestive functions." He experimented with extracts of aurantium, gentian, trifolium, absinthium, calumba, cascarilla and quassa, on (1) gastric digestion and the secretion of the gastric juice; (2) pancreatic digestion and the secretion of the pancreatic juice; (3) the secretion of bile; (4) fermentation; and (5) nitrogenous metamorphosis. He arrived at the conclusion that bitter extracts, even in small doses, interfere with artificial gastric digestion, and also with gastric digestion of animals, but not to so great an extent. Large doses of bitter extracts diminish the secretion of gastric juice, although small doses effect a slight and transitory increase of it, the digestive power of the fluid being, however, in all cases diminished. Bitter extracts have no effect on the secretion of the pancreatic fluid, but they nevertheless retard hypogastric digestion. The action of bitter extracts on the secretion of bile is various. Extract of absinthium, extract of trifolium and large doses of extract cetrarin slightly increase it, while extract of quassia, extract of calumba, and small doses of extract of cetrarin have no effect at all. Bitter extracts have no antifermentative effect, but rather hasten and promote fermentation, especially in large doses. The putrefaction of blood and urine is favored by the presence of pure bitters. With regard to the effect of bitters on nitrogenous metamorphoses, the Russian experimenter found that under their influence the quantity of waste nitrogen in the urine and feces was increased; in other words, disassimilation was accelerated, while, on the other hand, assimilation was diminished.

It would seem from these experiments that bitters are of very questionable utility in the treatment of digestive disorders. It will not

do, however, to adopt this conclusion without considerable reservation. Experiments made in test-tubes in the laboratory and experiments on animals should not be allowed to out-weigh the results of clinical observation; and, to quote the words of Lauder Brunton, "the evidence of clinical experience in regard to the utility of bitter extracts is so strong that it is plain, either that the experiments have been imperfectly conducted, or that we must look to some other organ than the stomach for an explanation of the beneficial action of bitters in dyspepsia.—*Boston Med. and Surg. Jour.*

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Local Treatment of Diphtheria with Salicylic Acid.—Dr. A. d'Espine, in a paper upon the subject, concluded as follows.

1. From the experiments made it is safe to say that salicylic acid, in dilutions of one to two thousand, is an excellent parasiticide of the bacillus of diphtheria.

2. Its entire harmlessness in such doses permits its being used without fear, which cannot be said of carbolic acid or sublimate.

Irrigations of salicylic acid should also be used as a prophylactic remedy in diphtheria, in all simple throat affections, which in time of an epidemic might be the means of receiving the bacillus of Loffler.

This treatment should be especially applied to all scarlatinal sore throats which owing to the streptococcus of Heubner, might easily become the seat of narcotic pharyngitis or true diphtheria.

The author only claims originality for the large quantities of liquid used in the irrigations, which are repeated hourly until an improvement in the existing conditions is observed. It is evident that salicylic acid cannot prevent any accidents which are the outcome of an enfeebled constitution; hence the necessity of an early diagnosis of diphtheria becomes the more apparent.—*Med. News.*

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Professor :—What is comprehended under the term disease?

Candidate :—A patient and a doctor.

FROM THE GERMAN.

Doctor: "My dear Madame, your husband is in great danger. His hands and arms are already quite red—he has the scarlet fever in its severest form.

Wife: "But Doctor, my husband is a dyer, and was working with red early this morning.

Doctor: Hm! then there is a possible chance of saving him yet!

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Professor: Gentlemen, I begin to-day my lectures upon the diseases of man.

When the man is sick nature and disease are engaged in a fierce combat. The physician comes along and enters the fight. If he hits the disease the man gets well; but if he hits nature the man dies.

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For this malady, gentlemen, there are but two remedies, and these—don't do any good!

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Professor :—What would you do, Mr. Candidate, if a patient, afflicted as this one is, came to you?

Student :—I would send him to you, Herr Professor.

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Doctor: "Now, John, have you received the cork health-soles from Hanover yet?"

John: "Yes, Doctor.

Doctor: "Well, where are they?

John: "I finally succeeded in getting them down after smearing them well with butter, but they have not seemed to do me any good yet."

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A physician who was called away from an interesting game of whist, counted the patient's pulse as follows.

Two, three, four, five, six, seven, eight, nine, ten, jack, queen, king, ace!

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"Tell me, my man, have you given your wife the buttermilk as I ordered?" "No, sir, it was too sour for her so I fixed it up with sugar and drank it myself."

# THE WEEKLY MEDICAL REVIEW.

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## ORIGINAL ARTICLES.

### GASTROSTOMY.—ILLUSTRATED BY A CASE AND SPECIMENS.

BY FRANK J. LUTZ, M. D., ST. LOUIS.

Presented to the Missouri State Medical Association at Springfield, Mo., May, 1889.

Since the report of a case of gastrostomy which I made to this association at its meeting at Mexico, Mo., the establishment of a gastric fistula for the purpose of introducing food into the stomach when the ordinary channel is stenotic from malignant disease of the esophagus, from cicatricial contraction, or from pressure upon it by new growths in the surrounding structures, has become such a well established surgical procedure and one which is sanctioned and justified—I was about to say demanded—by the results obtained in numerous cases, that it would appear a mere exhibition to present the histories of patients who have been made the beneficiaries of the operation. But, I take it, the cases as such are interesting, and certain points in the technique and management deserve some little attention. You will remember that in the case reported at Mexico, I had endeavored to close the fistula during the interprandial period by means of an obturator, but like other experimentors, unsuccessfully. Experience has since taught, and the young man before you illustrates it, that the fistulous opening is best closed by means of a snugly fitting rubber tube, continuously worn.

Another point to which I desire to direct your attention, is the absolute necessity of insalivating the food before it is introduced into the stomach. In the young man whose history I shall presently detail, the food was for many months introduced directly into the stomach without an admixture of the salivary secretion, and whilst life was sustained, his general condition was not markedly improved, until all the food passed through the fistula was first thoroughly insalivated.

While this young man walks through the aisles, I will read you a brief history of his case.

CASE I. The patient was operated upon by Dr. M. F. Porter, of Ft. Wayne, Ind., who reports it in the *Jour. of the Am. Med. Ass'n.*, July 28, 1888. At the time of the operation Charles S. was 19 years old, and the supposed cause of the cicatricial contraction of the esophagus is cauterization. He was admitted to the Ft. Wayne City Hospital Sept. 9, 1887, and on examination there was found "organic stricture of esophagus commencing at the level of the cricoid cartilage and extending downward about one and one-half inches. The passage is tortuous, and the largest instrument which can be passed is a No. 16 American elastic urethral bougie." Deglutition became almost impossible in spite of attempted dilatation, when on December 4, 1887, gastrostomy was done. He has since, for 17 months, been fed through a fistula, and with what results is best shown by the appearance of the patient.

CASE II.—The specimen before you was taken from a man who suffered from a malignant stenosis of the esophagus, and who was nourished for ten weeks, with marked amelioration of his symptoms, through a gastric fistula. The patient was 59 years of age, a widower, native of Germany, and by occupation a cooper. He was a drinker of beer and whiskey immoderately. His father died at the age of 77 years and his mother at the age

of 45, but neither of them had any cancerous affection. The patient claimed that he had been a healthy man until September, 1888, when he commenced to have some difficulty in swallowing, which increased until October, when he could swallow fluids only with difficulty. He then consulted a physician, who passed an esophageal bougie and the condition was relieved; in other words, he could swallow better. Iodide of potassium had also been administered at that time under the supposition that possibly the difficulty was extra-esophageal, possibly due to enlargement of the glands surrounding the esophagus, or to syphilitic gummata. The patient denied any specific disease, and his history does not contain a tuberculous taint. He came to the Alexian Brothers' Hospital, and his huskiness of voice was the occasion for a laryngoscopic examination by Dr. Mulhall, who found paralysis of the right vocal cord, as the record has it. In passing the esophageal bougie he found an obstructien about at the junction of the middle with the upper third of the esophagus, and referred the patient to me for the performance of gastrostomy, which was done on February 7, 1889, but not until the patient had refused for some time to have the operation performed. He finally yielded, after he had been unable to swallow even water for three days.

The operation, as you know, consists of making an abdominal incision and the attachment to the abdominal wound of the stomach. Theoretically, we would suppose that the fistula should be established high up, toward the cardiac end of the esophagus, in order to permit the food to have the greatest possible amount of room in the stomach without escaping. Practically, however, we find that that would make traction on the abdominal wall, and in that way possibly endanger the patient, by permitting the extravasation of the juices of the stomach, and peritonitis. So that, practically, that portion of the stomach is found to be the portion to be attached which lies nearest the parietal opening. This is ordinarily made an inch and a half from the border of the ribs on the left side (a point nearer to the smaller curvature of the stomach). I was fortunate in having no great difficulty in finding the stomach, and none at all in attaching it. Then another point to which I desire to call attention is this: ordinarily there are two stages to the operation; that is to say, one stage consists in attaching the stomach to the wall of the abdomen, permitting it to remain in contact with the abdominal wall until adhesions have formed between the organ and the wall; and then the second stage consists in incising the stomach, establishing the fistula. As this patient had not swallowed anything, not even liquid of any kind, and as he was very much exhausted, I thought it advisable to perform the entire operation at one stage, so that as soon as the wall of the abdomen and stomach had been united by suture, I incised the stomach and at once introduced water and milk and brandy into the stomach, which was retained very nicely.

It soon developed that a perforation had occurred from the esophagus into the trachea, because he expectorated immense quantities of matter. He also complained of great pain on the right side of the sterum about the third or fourth rib, which, as subsequent events showed, was due to the fact of a perforation which had occurred into the pleural cavity. In other words, the lung at that point had become attached and a pleurisy had been set up.

By examining the specimen you will observe that the new growth, which involves about three inches of the esophagus, is situated at the junction of the middle with the upper third. It extends around the entire circumference of the tube, and has perforated the trachea. The opening into the trachea is two inches in length and one-half inch wide. On the right side the new growth involves the recurrent laryngeal nerve; hence the paralysis of the right vocal cord, mentioned in the report. To the anterior wall of the stomach you see attached a portion of the anterior abdominal wall, and the union of the stomach and abdominal parietes is beautifully illustrated.

The adhesions are firm, circumscribed an no peritonitis—not even a local one—existed. The capacity of the stomach is slightly diminished. In the duodenum you will observe cicatricial contraction, a duodenal ulcer cured. Both thyroid bodies are greatly enlarged. A microscopic section showed a typical picture of an epithelioma.

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## STRANGULATED INGUINO-SCROTAL HERNIA OF HUGE PROPORTIONS; RADICAL OPERATION; RECOVERY.

BY THOMAS S. K. MORTON, M.D.

Read before Phil. Co. Med. Society, May 22, 1889.

It has, with great truth, been said that no two cases of hernia are ever alike, and that each one as it comes to hand presents some novel feature. So much is this the case, that one is tempted to report every case of herniotomy. Therefore, some very unusual or instructive features must be present to at all justify the report of an isolated case. Such, I think, are to be found in the history of the following case, the points of which are: The size of the hernia; duration of the anesthetic state; the contents of the sac; the question of removal of a testicle; the mode of reduction; the radical closure of the hernial opening; and the after-treatment.

Mr. M. C. B., a strong healthy man, of almost 57 years, strained himself fourteen years ago whilst pulling a heavy satchel across the floor. It caught in a splinter, and, as a result of straining to dislodge it while in a stooping position, he felt something give way in the left groin, and became exceedingly faint. Shortly after this a small, reducible, but constantly reappearing tumor, came into the scrotum, and, as time went by, became gradually larger and larger.

Several years after the first appearance of the tumor, and when it had attained quite a large size, he became subject to occasional attacks of strangulation, which always required anesthesia for reduction. Then, after one of these attacks, a large portion of the tumor became irreducible, and so remained. After this, when the seizures came on, strangulation could always be overcome by reduction of a portion of the hernial contents, but the entire tumor never could be reduced. Several more attacks of strangulation occurred at varying times after this, when more intestine would become prolapsed, but relief was invariably obtained upon reduction of the newly prolapsed and strangulated portion. While strangulation lasted his chief symptom always was an agonizing dragging pain at the pit of his stomach. By wearing a truss over the external abdominal ring, that portion of gut which prolapsed and produced strangulation was more or less effectually kept up.

About 8 o'clock P. M., April 10, 1889, while at work in the postoffice, he felt the hernia slip out and became a little faint and sick; but after lying down for a short time continued at his work until midnight. At 1 o'clock A. M. he reached his home in West Philadelphia. His sensations were then different from anything that he had ever experienced before, and he was certain that he was about to die—on other similar occasions he had always been most confident and hopeful. At 3 o'clock A. M. he was seen by Dr. Lampen, who always heretofore had been able to reduce the strangulation by taxis. He, however, could not let up the ether on account of the patient's terrific sufferings. Ether, with an occasional application of taxis, had been kept continuously from 3 o'clock A. M. until 8 o'clock A. M., when I saw the case in consultation. The patient's condition at that time was fairly good, but he was much depressed by the prolonged anesthesia. No fecal vomiting had occurred.

Upon examination an enormous left-sided inguino-scrotal hernia was discovered. It was fully as large as a man's head, and the skin covering it was exceedingly tense, shiny, and almost black from congestion and impeded circulation. Fluctuation was marked over the upper and outer portions of the tumor, whilst at that portion nearest the knees was present a large semi-globular boggy mass

just beneath the skin. Consent to operation having been obtained from the wife, taxis of short duration was unsuccessfully employed, and operation at once proceeded with. Full aseptic precautions prevailed throughout. A six-inch incision was made in the line of the tumor and canal, and carried down to the sac, which was punctured and torn to an equal length. About a pint of brown-tinged odorless serum escaped from the opening and a small intestine immediately came into view. This was highly distended with flatus, almost black, suffused, and in places ecchymotic. The constriction was then sought for and found to be at the external ring. This was incised upward and the small bowel (some three feet in length), after it had begun to change color, was, with some difficulty reduced into the abdomen, a healthy portion first having been pulled down at each extremity to make sure that no constriction existed at a higher or lower point. Attention was now turned to the remaining prolapsed mass. This had the appearance of being an enormously hypertrophied omentum, and was not in the slightest degree strangulated or congested. At first sight I took this mass for omentum, so great was its resemblance thereto, and it was only upon most careful examination that its true nature was revealed. It proved to be the entire colon, except, possibly, its cecal extremity, which could not be distinguished in the confused mass. The discovery was made by finding deep between two large layers of fat a band of fibrous material through which muscular fibres coursed, and, later, by finding a small fecal mass in the lumen. The bowel was absolutely collapsed, practically free of feces, and deeply buried in hypertrophied fatty surroundings. The mesocolon also participated in these changes, and was likewise rendered almost indistinguishable by fat deposit. Only a longitudinal half inch strip of bowel could anywhere be brought to sight. The epiploic appendages participated in the general hypertrophy and were enormous. The mass was separated from its many adhesions to the sac, but from its great size, after separation, could not be reduced through the abdominal rings. Hence the original incision was enlarged upward upon the abdomen and downward so as to include the rings. The colon was then easily reduced, and attention turned to the sac. This was found universally adherent, and particularly to the peri testicular tissues. It was stripped up in one piece, however, as far as the internal ring, where it was ligated in sections, and the external portion cut off; the stump being held by forceps until it should be wanted later. I did not employ the method of dealing with the sac that is recommended by Macewen, because of the very large mass of perhaps devitalized tissue which it would, by that method, have been necessary to leave in the abdomen.

The left testicle was elongated, hypertrophied, and so enveloped by the sac as to give it much resemblance to a prolapsed kidney, but examination quickly demonstrated its identity also. After the sac had been stripped up, it was found that the testicle was left without any vascular attachment, except through its cord. Then arose the question whether it should be allowed to remain. This was decided in the negative for the following reasons: After separation of the sac the testicle remained without any vascular attachment except the cord; it was hypertrophied and likely would require more blood than could be conveyed to it by the perhaps occluded or bruised cord; the patient was over 56 years of age; the opposite organ was apparently healthy; and, most decisive of all, the pillars of the ring could not be so accurately closed with the cord running through them and so radical a result secured as if they were accurately approximated throughout. Again, had the organ been allowed to remain its life was by no means certain, and its death might have made a very dangerous complication during convalescence. Hence, the cord or pedicle was ligated high up, the testicle detached, and the stump dropped into the peritoneal cavity. The abdominal wound was then closed by strong silk sutures embracing the abdominal wall and peritoneum, and in the lower portion of the wound, also,

the pillars of the ring and the abdominal extremities of the sac, thus securing an effectual closure of the entire hernial opening. The sutures embracing the sac extremities were so tied that the sac edges did not come between the pillars of the ring but were kept entirely behind, but in close apposition to their under surface. That portion of the wound which extended down upon the scrotum was obliterated by deep sutures and was not drained, but a large glass drain was carried to the bottom of the pelvis through the upper portion of the abdominal wound. The peritoneal cavity was then tremendously irrigated with hot water, the sutures were tied and an aseptic dressing applied over all. The patient urinated naturally shortly after coming out of ether, and the urine was not drawn at any time during convalescence. The cotton rope in the drain tube was several times renewed during the first twenty hours as it became saturated.

As soon as consciousness returned he was put upon powders of calomel, grains $^1/_{10}$ and podophyllin, grains $^1/_{60}$, every half hour. These he took for twelve hours, and then was placed upon 1 drachm of Epsom salts hourly. No food was allowed for twelve hours. Bowels moved very freely next morning with the aid of an enema. From the time of coming out of ether until the following day he was most violently restless, pitching and tossing about the bed in an uncontrollable manner. Somehow in the night he had, without the knowledge of those about him, managed to withdraw the drain tube. This I found lying loose in the bed when I saw him early the next day. The bowels having by that time moved freely, and the belly being flat, and no pain present, I determined not to reinsert the tube unless compelled to do so later. Milk in small but increasing quantities was allowed from the twelfth hour on. Jactitation controlled by 15-grain doses of chloral—from first to last he never received opium in any form.

April 15. Belly slightly full. Still somewhat restless; for this more chloral. Bowels again freely moved as before. Temperature has not been above normal yet. Violent bronchitis present as result of prolonged etherization.

16th. Belly much more swollen, nausea and non-fecal vomiting, complains much of belly pain, racking hiccough present, but he continues nourishment and is taking champagne. Bowels not moved to-day. Decided to reinsert tube. Removed stitch at extreme upper portion of wound, and put a large glass drain down toward hollow of pelvis, and through it drew off about two ounces of turbid but odorless bloody serum. Wound in excellent condition. Left the tube in position. It was not thought necessary or prudent to wash out the peritoneal cavity. Again put him upon mercury in fractional doses. Bronchitis improving, but much purulent expectoration continues.

17th. Bowels freely open. Small amount of serous straw-colored discharge from tube. Abdomen much more flat and no longer tender. Hiccough and vomiting continue obstinately. For latter symptoms ordered cocaine grains $^1/_{10}$, sodii bicarb. grains 2, cerium oxalate grains 2; every two hours.

18th. Vomiting and hiccough entirely under control. Bowels opened of their own accord; abdomen entirely flat and painless. Discharge had ceased, so tube was removed, as also were all of the sutures. Patient eating and sleeping well. Bronchitis about well.

22d. Diet now unrestricted; bowels moving naturally; drain-tube wound granulating; no bronchitis.

On May 4 he sat up, and from that time his progress has been to perfect recovery with no sign of return of the hernia. The cicatrix is dense, and apparently a perfect radical result will be gained. He will be directed, nevertheless, to wear a properly constructed support for a long while to come.

This case, of course, is not reported as one of radical cure of hernia, for whether that desideratum has been attained cannot be told until at least a year has passed. But I have considerable hope of the cure being permanent on account of complete former success with the above method—exclusive of the removal of the testicle.

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EDITOR.

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SATURDAY, JUNE 29, 1889.

## THE PHONOGRAPH IN MEDICINE.

The phonograph, improved as it has been during the last few years, may be seen in all its perfection at the office of the company in the Laclede Building, Fourth and Olive.

This wonderful instrument will certainly be doing good service for the medical profession at no distant date. Indeed, it has already been made of practical value in a clinical way, both in New York, by M. Bleyer. (The *Scalpel*, May 26, 1889, and in the *Clinique Medicale*, Paris.)

Heart murmurs, or aneurysmal bruits are registered on the wax-cylinders, to be reproduced at will and studied at leisure, they may be compared later on with others taken after changes have occurred. Lectures may be illustrated by the auscultatory signs of cases which have long since ceased to be of clinical service; and what has never been attained before is now rendered practicable, viz., the simultaneous exhibition of the ante-mortem physical signs and the post-mortem appearances.

Moreover, by means of the little contrivance of rubber tubes attached to the receiving box, almost any number may listen at the same time.

We would advise all our medical brethren to go and see it; go early before the crowd.

## PUNCTURE OF THE LUNG BY A KNITTING NEEDLE.

Dr. F. H. Wigmore, in the *Lancet*, May 25, details the case of an unfortunate young woman, an actress, who accidentally ran a knitting needle into her chest.

Considering the wound a trivial one, she finished two more acts of a play in which she was then engaged. Emphysema soon developed, air accumulating in the subcutaneous tissues as well as in the pleural cavity. Respiration rapidly grew so difficult that it became necessary to aspirate the pleura to give breathing space. This, of course, only afforded temporary relief. Death occurred 28 hours after the injury.

There is something peculiarly shocking about a death from such a cause, coming on as it does in its unrelenting swiftness, from a wound which is so slight that one could hardly find it on close search; and the aspect of the patient depicts agony in the extreme. The eye-balls bulge, the patient, wholly unable to lie still any part of a minute, clutches at bed-clothing, rolls from side to side, gasping, writhing and struggling for air, which is even then causing his destruction.

Such a case well illustrates the danger of the use of the hypodermic needle as a means of diagnosis in obscure chest troubles. Within a year a death from such a cause was reported in New York, and yet the author of this report does not entertain any such fears for he says: "We puncture the lung often enough with an exploring needle without producing any evil consequences. What were the factors which determined death in this case? For four days she had kept nothing on her stomach; for some weeks previously she had been much troubled mentally; for years she had suffered from a chronic cough. No one will suppose that the injury of itself could produce such a train of symptoms as that presented, and it is doubtful if death would have ensued, even in her debilitated condition had she not gone through the exertion of her part in those last two acts.

"Sad as the case is there is nevertheless encouragement to be found in it, for the relief experienced by aspiration, though temporary, leads one to hope that early, and if need be, frequent aspiration is a form of treatment

which in the worst cases of this kind will lead to a successful issue."

From this last expression of the faith in aspiration we must dissent, having been convinced of the contrary by a like sad experience. Air re-accumulates as rapidly as it can be drawn off, and the only chance of effecting anything in this way, would be to make a free opening into the pleural cavity, giving ready communication with the external atmosphere. It is doubtful if this would do much good, as the chief difficulty lies in the lack of ability of the other lung to take on the function of two lungs.

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## Trained Nursing.

In the practice of medicine in any of its branches, a very important adjuvant or adjunct is proper nursing, without which the most skillful practitioner will fall short of the best results.

There are many requirements for qualification as a good nurse.

First and most important of all is sound common sense, without which it would be little less than a miracle to evolve a good nurse; second, is training, which, however, must not, as is frequently the case, be overdone, and the nurse comes to look on herself as occupying a plane on a level with the physician, almost.

A nurse can only become proficient by most careful training in the actual performance of her duties, and not by theoretical teaching alone. In fact it were better that the book part of a nurse's training should be secondary or supplementary, as it were, taking for granted, of course, that the person is well grounded in the common preliminaries of a general education which will include something of hygiene, of physiology and of anatomy. Of the latter (anatomy) it may be said that quite a limited knowledge will be sufficient to meet the demands of the general nurse; but of the others (hygiene and physiology) it is imperative that the nurse have a pretty free understanding.

Books, as instructors, can, in the matter of nursing, only be guides to the practical work which must ever hold the first place in the estimation of those preparing themselves for the high and noble occupation of nursing.

In speaking of the value of physiological knowledge to the nurse, Dr. J. Lindsay Steven, in the *Glasgow Med. Jour.*, says: "The importance of such knowledge is recognized by all of our greatest writers and thinkers. There is no doubt that a large proportion of the diseases to which human flesh is heir, is attributable to the gross ignorance of physiological principles and problems in their elementary significance. If this be true of physiological knowledge with relation to the general public, how much more so is it when applied to nurses whose work puts them in the line of assistants in waging the warfare of mankind against disease!"

The most important qualification for a nurse, according to Dr. Steven, is that of accuracy of observation and reporting; and this certainly constitutes an indispensable requisite in nursing, for, as Dr. Steven says, oftentimes, especially in medical cases, transient signs and symptoms may be overlooked and not reported to the physician, leading him into erroneous views and consequently defeating the efforts to overcome the disease.

The qualification next in the estimation of Dr. Steven is one that we think certainly transcends the former in importance; it is the duty of obedience.

"The nurse," he says, "is to carry out strictly, accurately and intelligently the instructions of the physician.

"A nurse never has the treatment of a case in her own hands; she must never proceed upon her own responsibility and above all she must never presume upon her own knowledge."

And then, on the other hand, the author cautions the nurse against becoming an automaton, and advises that she be ever ready to apply her intelligence which may often be demanded in emergencies. "Nurses are officers in the army drawn up to do battle with disease, and in the absence of the commander, much will be left to their trained skill and intelligence."

## Two Years of the Pasteur Treatment at Turin.

In 1885, Dr. Uffreduzzi was sent to Paris by the municipality of Turin, Italy, to study Pasteur's treatment for hydrophobia. After two years' practical experience with it at Turin he now makes his report to the mayor of that city.

The patients treated are divided into three classes:

First, persons bitten by dogs, whose hydrophobia was proved by laboratory experiments or by the death, either of the animals or of persons bitten by them, 241.

Second, persons bitten by dogs whose hydrophobia was indubitably proved by clinical manifestations or by medical certificates, 245.

Third, doubtful cases, 45.

Total number of failures, 10, of which 6 fall in the first of the above classes, 4 in the second, and none in the third, making a mortality of 1.88 per cent.

In these statistics, it is necessary to observe two periods: the first, that in which the primitive method of Pasteur was applied in 353 subjects, giving 9 failures, or 2 54 per cent; and the second, following the introduction of the intensive method, comprising 178 cases, with only one death, or 0.56 per cent.

The inefficiency of cauterization is shown by the following:

| | | | |
|---|---|---|---|
| Cauterization, late or none: | | | |
| First category, - | 117 cases, | 4 deaths. | |
| Second category, | 118 " | 3 " | |
| Third category, | 22 " | 0 " | |
| Cauterization: | | | |
| First category, - | 124 cases, | 2 deaths. | |
| Second category, | 127 " | 1 " | |
| Third category, | 23 " | 0 " | |

In this connection an editorial in the *Med. and Surg. Rep.* may be of interest. We append it:

"The effect of the attention attracted to hydrophobia in France and certain other parts of Europe by the discussion and practice of Pasteur's method of treating persons bitten by animals supposed to be rabid, has been to increase the mortality from what is called hydrophobia. In France the number of deaths has increased so much since this "infallible" method has been in use that in the Department of the Seine—which includes Paris, the center of Pasteur's operations—there were nineteen deaths attributed to hydrophobia last year. The partisans of Pasteur's method ingeniously manipulate the statistics, so as to make it appear that this is not due to any defect in the method, but they appear to be blind to the obvious inference to be drawn from the fact that in France hydrophobia seems to be on the increase, while in Germany, where Pasteur's methods have never been approved or adopted, hydrophophobia has almost utterly disappeared.

"Another interesting point in regard to this matter is the fact that Pasteur several years ago announced that he had discovered a method by which dogs, to any number, could be rendered "refractory" to rabies, and yet there is no evidence that he has ever applied this merciful discovery; so that in France dogs "go mad" as much as ever, and all the energy of Pasteur and his followers is directed toward a malady which would be unknown if his method for dogs were really trustworthy and if it were put in practice as it ought to be. Meanwhile good laws for the management of dogs, and good sense on the part of medical men, have reduced rabies almost to an unknown quantity in Germany.

"The facts indicate the danger of following an *ignis fatuus*, and may support the conviction of Americans who have never consented to importing into this country a theory and a practice which has worked so poorly in France."

## NEWS ITEMS.

Calcined magnesia taken continuously in large doses is said to remove warts invariably. Arsenic internally has the same power.

Medical men visiting Paris during the Exposition (from May to November) will receive any information they may desire at the offices of *Le Progress Medicale*, rue des

Carmes, 14. The entire exchange list of that journal will also be at the service of such visitors.

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Dr. J. W. Long writes us from Russell, Kan., that a recent article in the REVIEW has reminded him of a case of intestinal obstruction with stercoraceous vomiting, etc., which he had in 1885, and treated by throwing a large quantity of water into the colon, then with the patient on his back on a hard table, alternately lifting him by the knees and letting him drop. This energetic procedure relieved him after the third sitting—or, rather, dropping, and he got up feeling much better. Recovery followed.

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Dr. Hashimoto, in the *Archiv. f. Klin. Chir.*, relates the case of a woman who swallowed a tooth-brush. Pain in the stomach was experienced for a time, then ceased for nearly a year, when it returned, as the brush began to gain its freedom by causing ulceration through the stomach and abdominal wall. It finally made its appearance in the epigastric region, but the physician in attendance was unable to get it out, so he simply cut off the protruding end of the handle. The parts healed, remaining so for thirteen years, when the brush again made its appearance, this time at the navel. It was extracted by a cutting operation which resulted in a gastric fistula of only short duration. The patient recovered entirely.

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Dr. Schluckmehr was seated in a tavern and had perhaps gazed somewhat too deeply into his glass, when he was hurriedly called away to see a hostler who had been suddenly stricken with a high fever. He ordered leeches from the apothecary immediately, and as the wife was very awkward in her attempts to apply them he undertook himself to put them on the legs of the patient. But in spite of all his exertions the leeches would not bite, and after a quarter of an hour the doctor lost all patience and was about to give up the task, when the wife, who had been looking on intently, advanced the suggestion—"would'nt we do better, doctor, if we first took off my man's boots?"

## SOCIETY PROCEEDINGS.

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### MISSOURI STATE MEDICAL ASSOCIATION, MAY 21st AND 22nd, 1889.

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The President, Dr. A. W. McAlester, in the chair.

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[CONTINUED FROM PAGE 686].

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GASTROTOMY WITH ILLUSTRATIVE CASES, by F. J. LUTZ, M. D., St. Louis. (See page (701.)

DR. MCALESTER.—The report of Dr. Lutz's case again brings up the subject of peritonitis following such operations, which is especially interesting to those of us who do not live in the great cities. We are taught here that all we have to do is to pour salts into the abdominal cavity and we have a remedy *par excellence.* We do away with opium, the remedy that has stood the test of experience for 30 years. We have been giving opium to arrest the inflammation in its initiatory stage; we wish to place the nervous system in such a condition that it will not respond to the irritants present. There are certain irritants that produce irritation at once; others will produce contraction of the blood vessels. If you stop the dilatation of the blood vessels, for instance by opium, you arrest the whole process of inflammation, and so I would advise that morphine be given at first, so as to place the part at rest. Every man puts a splint on a bone when he has a broken leg, so I would ask you to splint the abdominal cavity. In these cases the inflammatory process is but a modification of the whole nutritive process. We are taught that peritonitis is of septic origin and that we should give salts to flush out the septic matter. I will admit that we have pushed the opium treatment too far; I admit that in most of these cases we have septic conditions to deal with, and in such cases I am willing to use salts. I go back to the old calomel when I want to eliminate the poison that is already in the system; the salts simply act on the mucous membrane and make it throw out its secre-

tion. I give calomel that starts up every sluggish gland in the body to pour out the effete products; and at the same time it produces less purgation that any other cathartic that we have.

Dr. Lutz.—So far as we are surgically concerned, we know of but one kind of peritonitis; that is septic in its nature. I do not know whether calomel opens up all the secretions or not, but I know this, that when a laparotomy is performed for any reason at all, the first thing after our patient is put to bed, usually, he is given a hypodermic of morphine. I wish to protest against the use of opium and morphine after surgical operations in connection with peritonitis. It does absolutely more harm than good.

Ten days ago I performed a laparotomy, and in cutting one of the sutures I cut it too short. The next day when I came back I found the patient vomiting continually; I looked at the pupils and saw that they were contracted, showing that she had been taking morphine. This was discontinued and she never had another bad symptom. There is no structure of our anatomy which has a greater influence on the central nervous system than the peritoneum. Opium should not be administered except as a last resort, when the patient is suffering. In nine cases out of ten other remedies will answer the purpose better. If you give morphine in the early stage of the inflammation I believe that you do absolute injury. I do not believe that a patient should be permitted to suffer. Where the peritonitis is associated with inflammatory conditions of the other membranes opium may be administered, but not in the cases in question.

The Suppression of the Lacteal Secretion and Arrest of Incipient Mammitis by Physical Means. By E. H. McBride, M. D.

I wish to state at the outset that I claim no originality for this method, but give all credit to Prof. Dugas, of Augusta, Ga., who read a paper on the subject before the Georgia Medical Association in 1875. After reading Dr. Dugas' paper, I began testing the value of the method and have continued my investigation in upward of twenty cases. I have never had one single failure, either in arresting at pleasure the milk, or in breaking up promptly a forming mammitis.

Prof. Dugas' theory is that the mammary gland being largely vascular and merely held together by fibrous tissue, dipping down between the 15 or 20 lobes and surrounded on the top side by a fibrous covering, with a bony base, connected by soft tissues, perforated by arteries and veins; that by mechanical means the blood can be squeezed out of the gland, and by keeping up the pressure the blood supply can be regulated as desired. From the anatomical arrangements of the part you can readily see that this is highly possible.

This method finds its application, not only in a forming abscess, but when we wish to discontinue the lacteal secretion; where the child is still-born, it is an unfailing resource.

I empty the breast with a good breast pump and at once apply the bandage so tight that the woman thinks she cannot stand it. I leave it on for a few hours, always seeing to it that the pressure is equable and considerable. At the end of 24 hours the pain nearly ceases, when, if you want to dry up the milk altogether, you make the bandage a trifle tighter and leave it for five or ten days, and when you remove it have the breast protected by flannels. Should you not wish to dry up all the milk after tightening the bandage the second time, if the pain is growing less, loosen gradually, or leave the bandage where it is and all the time let the child empty it at reasonably long intervals, through the holes left for the nipples; and when you see that the pain is beginning to leave and the flow of milk is not excessive, you can gradually loosen the bandage and in a few days remove it altogether.

To make a bandage I take the best of strong bleached shirting 12 inches wide, and long enough to go around the chest at the middle of the sternum; then I add 15 inches more to the cloth for tails, which I make by tearing each end into long strips. After

making holes for the nipples I apply in the way described. If you wish to make very little pressure on one gland, and more on the other, you can apply a soft roller to the outside of that gland under the bandage and make a sternal pad thick enough to protect that gland. I do not use camphor, belladonna, or any other medicine.

DISCUSSION.

DR. YATES.—Of late years I have used surgeon's adhesive plaster, because it is more easily applied, stays in place, and in my hands has been very effective.

DR. VON QUAST.—Three years ago Dr. Hunt published the results of a number of cases, treated by his method of figure-of 8 bandage, which I have tried, and yet I have never been able to get the results that he got. In only two cases out of six did I not have to use the knife.

DR. FULTON.—All of these plans of treatment do very well. Of the three plans proposed I prefer the one mentioned by Dr. Von Quast, the regular breast bandage with the addition of a flat sponge over the breast. If any man expects to get rid of an abscess by these means he is badly mistaken. We usually have, not simply a mammary abscess, but a retro-mammary abscess, and it is necessary to open deeply to reach it.

DR. HURT.—I am inclined to think that a bandage to support the weight of the gland is very useful, and I can see very readily how a bandage for the purpose of making compression would be useful. I have had some experience in this matter, and I usually use a roller bandage with a view of supporting the gland; when there is some glandular inflammation, I have derived a great deal of benefit from poultices.

DR. MCBRIDE.—So far as the difficulty of applying that bandage is concerned, it is as easy to put on as it is to put a bandage around the finger. Adhesive strips stick very tight and make much trouble in taking them off.

SYPHILITIS NEURALGIA, by G. W. Davis, M. D. See p. 679.

DR. CROWELL.—I wish to speak on some points concerning the diagnosis of syphilis. There are cases that are very difficult to diagnose, but I believe that there are certain things to be taken into consideration that, if observed constantly, will serve to set us right. I have had the opportunity of observing a great number of cases under the direction of one who might be called a syphilo-maniac, one that thinks that nine out of ten diseases are due to syphilis.

In cases of chronic syphilis there is a peculiar expression of the countenance, moody, dull and listless, which is almost always present.

I recently diagnosed a case which would not have been divulged in any other way, where the infection was brought about by impregnation. Coupled with this condition, we have another symptom which is almost uniformly present—a tenderness of the sternum which, if tapped with the finger, will cause the patient to flinch noticeably.

DR. DAVIS.—I did make pressure on the sternum in this case and there was tenderness. In endeavoring to make a diagnosis, that is almost always one of the means that I employ.

A CASE OF ALOPECIA AREATA DUE TO TRAUMATISM. By A. H. OHMANN-DUMESNIL, M. D., St. Louis.

The fact that the etiology of alopecia areata is yet a matter of dispute, renders the question an interesting one.

After discussing the opinions of various authors on this point, the reader spoke of the small number of cases of this disease observed; thus, McCall Anderson saw 197 in 11,000 cases of skin disease. Bulkley observed it 46 times in 8,000 cases. The statistics of the American Dermatological Association show that it occurred 794 times in 123,746 cases of skin disease reported during the past ten years. The reader has met it in ½ per cent of the cases observed by him.

The case which he described occurred in a young man of 16 years, who was "nervous." About a year previously, whilst walking in the street, a shingle fell on his scalp edgewise, producing a cut. This healed kindly, but

about a month later the hair began to fall out in spots and has continued to do so, the portion effected being posterior to the vertex. The patches have steadily increased in size and the alopecia threatens to become complete.

This case is an unusual one, although similar ones have been reported by Collier, Overall, Todd, McCall Anderson and a few others. The neurotic causes seem well defined in this as well as in many other cases. I have observed cases resembling alopecia areata which were due to parasitic causes, and it required careful discrimination to recognize the different forms.

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## CORRESPONDENCE.

### THE THERAPEUTICAL SELECTION OF ELECTRIC CURRENTS.

St. Louis, Mo., June 18, 1889.

Editor Review.—There has been referred to me to answer, if I saw fit, a communication containing the following questions from Dr. Thos. R. Thornton, of Lee's Summit, Mo. (As his questions are very pertinent ones, I suppose he will have no objection to seeing his name connected with them.): In what class of cases should the galvanic current be used, and when the faradic? If the galvanic current is preferred can we get it to do any good in the so-called primary current of the common coil, etc., etc?

As I have remarked above, these questions are pertinent, but the first is difficult to answer. Beyond a very restricted limit the therapeutic use of electricity is quite as emipric to-day as it ever was. Hence to the Doctor's first question a great variety of answers would come if it were passed around amongst so-called modern electro-therapeutists and neurologists. One practitioner will tell you that he rarely uses any other than frictional electricity. Why? Because he has found it to have the best effect on his patients. On the other hand many neurologists would not give a frictional machine house-room. Now it stands to reason that if there were any suitable evidences that the static current has any special or definite therapeutic power many who have not used it would be led in the light of such evidence to do so. I know neurologists who use the galvanic battery on almost every case that comes into their offices It would trouble these greatly to tell you honestly and scientifically why they do so. Suppose I find one such using the current faithfully every other day on a case of infantile paralysis. I ask why? He says, To help it. Did he ever help a case to recover by using the current? He *thinks* he did. He knows, if he knows anything, that certain cases of infantile paralysis recover to a certain point very rapidly, battery or no battery; that certain other cases improve very slowly and the results are bad no matter how much electricity is used, and that he has not the first item of evidence to show that he ever benefited a case of the kind with the battery. In certain kinds of paralysis and muscular atrophy there is a progression in the disease that has never been successfully resisted by any therapeutic means, at least not in enough instances to have as yet produced a reliable agent with which to combat such cases. On the other hand there are certain other cases of paralysis that have a decided tendency to recover to a certain point. Electricity is used constantly in many of both kinds of cases. Yet it stand to reason that it is impossible to furnish tangible evidence that electricity has ever accomplished anything towards determining the final result in such cases. I say that this fact is self-evident, because our knowledge of the pathology of these troubles teaches us how variable the results may be under any circumstances. If I assert that the progress of a case of progressive muscular atrophy was never arrested for a moment or that an ordinary case of hemiplegia was never benefited by a battery, there is no way to prove the contrary.

Now it is in the treatment of paralytic affections that elecrticity has been supposed to be most successfully used, yet there is no

question that its use in this connection is purely empirical. The next most popular and plausible use of electricity is for the relief of pain. But there are many kinds of pains and at least several ways of relieving them by electricity. First there is what would hastily be called imaginary pain, but which is as real as any other kind of pain, a pain of so-called psychical origin from which our neurasthenic patients so frequently suffer. Often any kind of battery will relieve these poor sufferers whether it produce a current or not. Then there are slight neuralgic and muscular pains, very annoying, variously located and hard to describe, due perhaps, in some instances, to a generally debilitated condition of the patient, in others to some viciated condition of the blood. Some of these cases are temporarily relieved by a battery, either frictional, faradic or galvanic properly used, but as a general thing, I believe such pains may be more rapidly and conveniently relieved by other measures.

When it comes to the treatment of genuine, severe neuralgic pain, following distinctly the course of the trunk of a large nerve the battery may often be used to great advantage. I have seen severe neuralgia temporarily relieved by a strong faradic current, but it posesses no advantages over the galvanic and so many disadvantages that it should not be used for this purpose. In relieving severe neuralgic pain my results have only approached satisfaction when using strong currents. As nearly as I can find out this is the experience of others. I have seen good results from currents that blistered even with large electrodes. On the other hand, I have seen the current increase the pain greatly, on matter what its direction, as often as used. I have faithfully tried mild currents, used daily for a long seance, and never found enough constancy of good results to warant mentioning them. I know no way to tell beforehand a case that will be benefited by electricity from one that will not. Some authorities give rules for the direction in which the current should pass. My individual exerience is in harmony with equally good authority to the effect that no such rules may be formulated. In some cases I have found more comfort was given with the positive electrode over the painful point; in others just the opposite. I prefer to use the negative electrode over the painful point for I am of the opinion that the counter irritation has much to do with the cure. I would never rely on the battery alone to relieve severe neuralgia.

Concerning the therepeutic effects of electricity upon the cranial contents we have no reliable data. Many of us have seen epileptics improve for a time under its application to the head. But I know of no one who can furnish reliable evidence of cases of epilepsy cured or even permanently benefited in this way. At any rate, although well tested, electricity is not rated high by many authorities as a remedy in this condition. And if we have no definite data of its effect in epilepsy we certainly have none of any moment as to its effects on any other encephalic conditions. I am speaking only of therapeutic effects. Certain physiological effects in animals, and to some extent in man, have been observed. If the foregoing observations are correct, and I am certain they are and in harmony with the best authority on the subject to-day, it is evident as above stated that our therapeutic use of electricity is purely empirical. Hence the difficulty in formulating an answer to the Doctor's question. However there are a few general rules that we should keep in mind in selecting the current.

To the brief suggestions contained in the foregoing may be added the following:

In cases where there is simply an atonic condition of the muscles generally the faradic current is the best, and most convenient to use in the shape of *general faradization* (Rockwell's method); where there is distinct atrophy of certain muscles or groups of muscles the galvanic current should always be used, some times combined with the faradic. Electromassage is the best treatment for such cases.

The faradic current should not be used on a muscle that does not react to it. The gal-

vanic in proper strength should be used until such time as regeneration reaches a point where the muscle will reach to the faradic, then both should be used.

In irritable conditions (spasmodic and painful affections) the faradic current should not be used; and in using the galvanic, a very mild current should be very gradually increased with the positive electrode over the irritable parts. This rule is often departed from by almost every one who uses electricity to any extent; but it should be adhered to until one becomes familiar enough with the use of electrical appliances to handle them with all possible precision.

In using a current about the head it should be very mild, and the tolerance of the patient carefully ascertained by gradually increasing it. Neither strong galvanic, nor strong faradic currents should be used about the head, the former because they may produce alarming vertigo, the latter because of the unnecessary pain they produce.

In answering the Doctor's second question, their is no difficulty. By the common coil we suppose he means the coils found in connection with the various styles of faradic batteries made for physicians use and for sale everywhere. From none of these do we get (by using any of the indicated binding posts) a primary current in the sense in which it is used in medical works and in the sense in which the doctor and other physicians are led to understand it. (By referring to a suitable and general work on electricity it will be seen that there is some confusion created by the manner in which the term *primary current* has been used by writers on the medical use of electricity for many years past). The only way in which a simple *galvanic* current may be obtained from one of these batteries is by joining the electrodes directly to the two elements of the cell, leaving the coil out of the circuit altogether. These batteries may only be used when you want a faradic current. The more simple they are, so that they are well-made, the better. There is no advantage in the half dozen or more varities of current that some of them furnish.

Respectfully,

FRANK R. FRY.

## SELECTIONS.

### TREATMENT OF EMPYEMA BY A VALVULAR TUBE HERMETICALLY SEALED TO THE CHEST.

BY WILLIAM WILLIAMS, M.D., M.R.C.P.

Physician Royal Southern Hospital, Liverpool.

In proceeding to give an account of the principle and mechanism involved in this plan of dealing with empyema, it will simplify my task considerably, as well as shorten the communication which I have to offer on the subject, if I commence by dealing with the consideration of the pathology of a typical case of the disease, and especially with the conditions which determine or have most influence on the ultimate fate of the patient when treated by any of the means hitherto adopted.

Taking an ordinary case, then, the facts are as follows: Chest full of pus, lung collapsed and more or less covered on its surface with effused inflammatory products, which have the usual tendency of such products to become organized into connective tissue and to subsequent contraction; these changes only requiring time, and, when once attained, permanently disabling the lung, as, being bound down in a collapsed state, the function of this organ will remain ever after in more or less complete abeyance. But to return: An opening, we will suppose, is now made in the side; the pus is allowed to drain away through a tube long or short, air enters to displace the pus, and with each act of respiration is plainly heard to rush in and out; a washing, say twice a day, with some antiseptic solution is performed, but the rest of the progress towards recovery, or towards an opposite termination, as the case may be, is left entirely to time, except that sometimes the doubtful expedient of cutting through some of the ribs, with a view of helping the side to collapse, is resorted to. Then comes the question: How does time cure the case? Almost entirely by means of the chest-wall. This, under some influence not very appar-

ent, is gradually forced down on to the immovable lung beneath, until ultimately it is sufficiently collapsed to obliterate the pleural cavity completely, that is, sufficiently to come into touch with the whole of the external surface of the lung; the secretion of pus now ceases, and consequently the opening made to drain it will close. Now, but not until now, with the closure of the opening, and so exclusion of atmospheric pressure, the chest-wall, in its endeavor to regain its former size and shape, gives the lung a helping hand, by attempting to carry it outwards with it. Of course this attempt, or this journey outwards, will be completely successful only where the lung is capable of full expansion, and where the chest itself has not been lamed by having had the ribs cut across in the previous treatment. In other words, then, the success of this endeavor will be almost entirely under the control of the very process which has been allowed to go on all this time undisturbed, namely, the organization of the inflammatory products which were poured out on the surface of the lung during the initial attack of pleurisy, and, if this process has had time to develop firm adhesions, permanent contraction is the result, and the rule is to have deformed sides in prolonged cases.

Children easily and quickly recover, because their chest-walls, being more pliable than those of adults, more readily fall in; a child's side is soon seen to be greatly contracted; the opening then closes, and afterwards the normal size and shape of the thorax is quickly regained, simply because the lung is not given time to establish firm adhesions; the accommodating chest-wall comes down upon it, or into touch with it, too quickly, and so has afterwards no difficulty in carrying it out with it under atmospheric influence. In adults, however, and especially in the case of elderly people, the process is anything but so simple and favorable, and it is for their benefit especially that the valvular tube which I have devised, and commenced using towards the end of 1887, is recommended. The period taken by their unyielding chests to fall in is so lengthy, that a great portion of such patients die of the exhaustive drain, or of its effects on other organs, long before the stages these cases have to pass through are compassed.

The principle of the treatment by my valvular tube is the taking away of the atmospheric pressure from the external surface of the lung while the opening in the chest-wall still remains, and so enabling the organ to fulfill its functions and to fill up its side of the chest from the first, without waiting for any falling in of the side to take place; in other words, to cause the lung to expand at the commencement instead of at the end of the treatment.

The method of carrying out this principle is the following: A rubber tube a yard and a half in length, and of a thickness that will admit of its being introduced through a cannula of the ordinary size used to open empyemas, is taken, and one end is introduced into the chest by this means; over the tube, starting from the free end, is next run up an oval, slightly-curved—concave towards the chest—metal plate or shield, three inches by two inches, having a metal tube half an inch long soldered in a hole in its center, and projecting on the convex side only; through this the drainage tube passes as the shield is run up to the chest, and they should, of course, fit each other air-tight. Now, between the plate and the chest stiff ointment on dressing, or a layer of soft rubber sheeting, or what not, is placed so as to form an air-tight joint, when the whole is finally firmly strapped down and bandaged. Turning again to the free end of the drainage-tube, we fix on to it by means of a piece of glass tubing a valve that opens outwards, and the contrivance is complete.

Many varieties of valves that answer extremely well are to be found in the rubber trade, and one that does as well as any other, and from which I first got the idea of a suitable valve—though not the first idea of the principle, which I had often thought of before—may be obtained from the air-bag of an ordinary spray-producer; others, again, are made by flattening chisel-shape one end of a short bit of thin rubber tubing.

The valve end of the tube when in use is placed in a bottle containing some antiseptic solution, as the valve acts best in a liquid, and the bottle forms a convenient and cleanly method of dealing with the discharge of pus. Lastly, once or twice each day the valve is removed and the chest washed out by simply elevating and lowering the bottle and changing its contents. It is essential that this should be done often at first, to thin the pus, which is then frequently very thick, presenting while in that state greater difficulties to its expulsion through the valve than when more fluid, and no obstacle should on any account be allowed to cause a postponement of the application of the valve for a single day.

By means of this mechanism the side of the chest acted upon is converted into the cylinder of a pump, of which the diaphragm forms the piston, having two exit openings, trachea and rubber tube, but only one inlet opening, trachea alone; therefore, each time the diaphragm ascends, the contents of the lung and also that of the pleural cavity are expelled; but each time the diaphragm descends only air into the lung can enter the chest; so each quantity of pus that is driven out through the tube during expiration is replaced at the next inspiration by so much re-expanded lung. By a repetition of this action the pleural cavity is ultimately pumped dry, and so the lung is made to reoccupy it; the action is, in fact, that of a continuous aspirator, and that it actually does take place is, I think, without doubt. It can readily be shown to occur under similar conditions by an experiment made with a contrivance consisting of a bottle with an open bottom, to which is attached a diaphragm of india-rubber, and which is closed at the mouth by a cork perforated by two tubes, to one of which is attached a bladder and to the other the valvular tube. Now, when the diaphragm is worked up and down with the hand, it will be seen that the expansion of the imprisoned bladder only takes place when the valve is *in situ.*

But, in addition to this experimental evidence, the following facts are, I think, proofs: At first the tube, if thin, will be seen to collapse during inspiration; again, patients complain of a drawing sensation, and will often, if not watched, remove the valve, when they obtain immediate relief; lastly, the discharge of pus during the first twenty-four hours is infinitely greater than it is during any subsequent similar period, and with the fall of the discharge to an insignificant quantity the complaints of the drawing action of the valve will also cease to be made.

Of course, during the daily washings, as also during the renewal of the pad or dressings under the shield, the lung collapses somewhat for the time being; this is, however, of no importance, as the instant the tube and valve are replaced expansion again takes place at once. A difficulty, and of rather a formidable character, did however present itself in my first case. It was found to be impossible to do without the tube; if when the discharge had virtually ceased it was taken out, some collapse at once took place, pus reappeared and increased rapidly in quantity; in fact the case altogether changed its aspect, and it became evident that unless some mode of finally doing without the tube was discovered, there would be no possibility of recovery taking place without some amount of falling in of the side first. When the tube was replaced the previous condition was immediately regained. I was a good deal puzzled by this circumstance, which remained as a real difficulty for some time; the patient, apparently quite well, up and about, carrying the bottle with him in one of his pockets while wearing the instrument, but a very decided invalid without it. Mr. Jackson, who then acted as my house-physician, and to whom great credit is due for the care with which he carried out the details of the treatment, hit upon a plan by which this difficulty was at once overcome. He found that by gradually shortening the end of the tube extending from the shield into the chest, the opening was made to heal out after it, the pleural surface healing first, and the two cases that subsequently under-

went this treatment gave little or no trouble in this direction.

Mr. Jackson has contrived a shield which he considers to be an improvement on the one I have described, and also a special trocar and cannula for its application.

The method of introducing the drainage tube through a cannula I first learned from my colleague, Mr. Paul, who introduced the long rubber tube for empyema into our hospital some years ago, and to which Mr. Jackson had already adapted a metal tube to keep it in position when my plan of making it valvular and hermetically sealing it to the chest was started.

The following three cases, treated as above described, I showed at the Medical Institution on January 31, 1889 :

Case I.—H. R., æt. 29, admitted October 29, 1887. Right empyema. Valvular tube hermetically sealed to the chest, applied some time after the forty-first day of the disease; the chest was opened on the forty-first day, and drained for some time into antiseptic gauze. Weekly quantity of pus discharged uncertain ; the tube remained nearly three months, owing mainly to the difficulty experienced in doing without it. Chest measurements on the day of discharge : right side, 17¾ inches ; left, 18¼ inches. On his return for examination at the end of a fortnight from the convalescent home, the two sides were found to be equal.

Case II.—R. B., æt. 23, admitted December 9, 1887. Left empyema. Chest opened and the tube introduced on the fifty-third day of the disease. Discharge : first day, 29 oz.; second day, 18 oz.; third day, 8 oz.; fourth day, 4 oz.; first week, 62 oz.; second week, 23 oz.; third week, 19 oz.; fourth week, 16 oz.; fifth week, 14 oz.; sixth week, 8 oz.; seventh week, 4 oz. It now remained at from three to 4 oz. a week for three weeks, then at about 1½ oz. for another four weeks, when scarcely enough to color the water escaped for two weeks more. Evidently pretty firm adhesions had occurred in this case. Chest measurements on the day of discharge : right side, 16½ in. left side, 15¾ in. On his return at the end of a fortnight for examination, no difference in the sides could be detected.

Case III.—W. H., æt. 54, admitted July 26, 1888. Left empyema. Chest opened and the tube introduced on the twenty eighth day of the disease, and remained for eight weeks. Discharge, first day, 94 oz.; first week, 112 oz.; second week, 14 oz.; third week, 6 oz.; fourth week, 5 oz.; fifth week, 1½ oz. Rapidly got well. Evidently no adhesions of any stability had formed in this case. Chest measurements on the day of discharge : 17 in. each side. Weight a week previous to discharge (October 15), 8 st. 7½ lbs.; at the end of the week, 8 st. 12 lbs.; a month later still, 9 st. 7½ lbs.; total gain for five weeks, 14 lbs.

It will be seen that in two of the above cases this tube was worn for a long time, but it must be borne in mind that for at least two-thirds of the time the patients suffered extremely little inconvenience ; they gained flesh rapidly; and there was no fever so long as nothing went wrong with the instrument. —*Brit. Med. Journ.*

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## ON THE TREATMENT OF CARBUNCLES.

BY E. P. HURD, M.D.

A carbuncle may be defined as a large boil, or an aggregation of boils. One characteristic is tumefaction ; there is a hard painful swelling of variable size ; it is not unusual to see a carbuncle as large as a pint bowl. These swellings may appear on any part of the body ; on the face, temples, hairy scalp, breast ; but the favorite site is the back of the neck and the buttocks.

Another characteristic is suppuration. This pus production is the effect of certain microbes which commit their ravages in the derm, and in the subcutaneous cellular tissue. Prominent among these micro-organisms, which causes pus formation, is the *staphylococcus pyogenes aureus*. This microccus being invariably associated with common carbuncle, is regarded by most modern authorities as the pathogenic agent. But this same microbe along with the *staphylococcus pyogenes albus*

is also believed to be the cause of ordinary abscesses. If it be the infectious agent of boils, and carbuncles as well, we have not as yet any sufficient explanation of the greater virulence and malignancy manifested by this microbe in the carbuncular affections. Certain it is, that in the carbuncle we have not merely suppuration, we have extensive necrosis also. There are shreds of dead cellular tissue spreading in various directions, and a central solid core ready to slough, or in the process of sloughing. The necrosis is generally limited to the skin and subcutaneous cellular tissue; it is rare that the muscles and fascia are invaded.

We do not yet know how this microbe causes the death of the skin and cellular membrane. It seems to enter by the hairs or perspiratory pores, and breed first in the sweat glands or hair-follicles, thence it diffuses itself through the derm and cellular tissue, setting up a destructive inflammation. Billroth supposes that this gangrene of the skin is induced by an early, perhaps primary, occlusion of small arteries, possibly of the vascular net-work around the sebaceous glands; but I do not know that there have been any observations to prove that such occlusion actually takes place.

That the *staphylococcus pyogenes aureus* is able of itself, under certain conditions, to produce furuncular inflammation, is proved by an experiment of Garre upon himself. "He rubbed into the perfect healthy skin of his arm several staphylococcus colonies taken from osteo-myelitic pus, and these, penetrating the excretory ducts of the cutaneous glands, produced furuncles in large number."

All physicians who have had any experience with furuncular or carbuncular diseases, recognize a certain predisposition as an essential factor of the pathogeny. The victim of carbuncles has been debilitated by some cause; the vital resistance of the derm has been lowered, and the infectious micro organism finds in the cuticular tissues a good culture field. Here is the whole story. The debilitating influence may have been fatigue, worry, a cold, vicious indulgence, excess of any kind; it is needless to say that this predisposition may also be caused by chronic disease, especially diabetes and tuberculosis. One of the worst carbuncles which I ever saw was on a common drunkard, J. L., Irishman, æt. 55, whom I attended twelve years ago while city physician. It was situated between the shoulders, was as large as the two fists, and when I first saw it, was exuding a sanious, purulent matter from numerous sloughing orifices on the summit and sides of the swelling. This patient was very cachectic; his surroundings were bad, his appetite and digestion poor—food of a right quality could not readily be obtained on account of his poverty; and it was with difficulty that he was sustained during the long, tedious sloughing process. I confess to having treated this case somewhat timidly. I had not then assimilated the modern antiseptic views, and believed in poulticing boils and carbuncles. This poor patient was confined to his room for three months, much of the time suffering extremely. After his recovery, he left off his drinking habits, but he has never been the robust man that he was before his painful experience with this carbuncle; he has, in fact, been much broken in health.

Several years later I was called to attend Mr. A. T. B., mountain hotel proprietor, æt. 75 years, debilitated from age, overwork, and saccharine diabetes. He was having a succession of boils and carbuncles; as fast as one set would get well, another would appear. One large carbuncle was seated on the left breast; when this got well, another came on the left leg; then he had a horribly painful swelling of the same kind on the left temple. He was kept in bed, well fed, and given sulphide of calcium pills, $^1/_6$ grain every four hours. These carbuncular swellings were all treated by deep crucial incisions, then poulticed or dressed with cloths or sponges soaked in a 2% carbolic solution. Immediate relief always followed the free incisions, made to the very base of the tumor; in a few days the core would separate, and the wound

would rapidly fill with granulations. In incising the carbuncle on the temple, I cut the temporal artery; the bleeding was free, but was controlled by pressure. One week afterwards the arterial plug gave way, and the hemorrhage was considerable. There happened, fortunately, to be a medical student stopping at the hotel, who found the bleeding artery and tied it.

The method of crucial incisions has long been a favorite method of treating carbuncles, and certainly, when thoroughly done, greatly abbreviates the duration of the malady. Some time ago I remember to have read in some medical journal, a recommendation not to poultice a carbuncle when opened, but to apply a large sponge wet in some disinfectant solution, carbolic acid or corrosive sublimate. This is a very sensible procedure, as I can testify from experience. The sponge should be large enough to completely cover the carbuncle and may be cut into shape so as to fit over it like a cap. Before being applied, it is dipped into a sublimate solution 1 part to 2000, or 2% carbolic solution; a little iodoform may then be dusted into the cavity of the carbuncle, down to the bottom of the incision, and the sponge is then adjusted and confined by a few turns of a roller bandage. There is no need of poulticing, for pain and tension are removed by the incisions; the microbes are more effectually stopped in their destructive depredations by the antiseptic liquid which is thus enabled to penetrate every part, than they can be by any other method; the dead shreds of tissue will rapidly separate under the disinfectant dressing, and all the discharges will soak into the sponge and be kept from putrefaction. Night and morning the dressings are renewed; the sponge, full of purulent matter and debris, is thrown into a bucket of boiling water, and afterwards cleansed, and again soaked in the sublimate solution for a fresh application. Simultaneous with the separation of sloughs, granulations make their appearance, and *restitutio ad integrum* rapidly takes place.

I had been led to suppose that this was about all that could be done to expedite the cure of a carbuncle. One day last summer I was called to attend J. F., ice dealer of this city, a strong, robust man, æt. 55 years, who was suffering from a large carbuncle on the back of his neck. For several nights Mr. F. had had no rest. His occupation seemed to predispose him to carbuncles, for this was the third which he had had within four years; in fact, he said, whenever he began to feel himself run down, a carbuncle would make its appearance.

Mr. F. had lost sixty days' time the year before from a similar carbuncle, and was very anxious that something should be done which might save him from so long confinement to his house on this occasion.

I proposed the crucial incision, and arranged to come to the house of Mr. F. that afternoon (August 16) with ether, prepared for the operation. At 3 o'clock P. M., I was there with my friend, Dr. G. W. Jones, of Cambridgeport. The patient was anesthetized, and the ordinary crucial incision made. My friend proposed that we should further assist nature by dissecting out all shreds of gangrenous tissue, curetting the cavity of the carbuncle, and treating in the most antiseptic manner possible. This we carried out very successfully, despite a good deal of bleeding. With curved scissors large flakes of sloughy cellular tissue were dissected out, and with an iron spoon (having no better instrument with us) the interior of the carbuncle was thoroughly scraped out. All prolongations of the dead cellular shreds were followed as far as possible into the surrounding tissues, and either cut out or scooped out. The large irregular open wound which we had made was then washed with hot water, iodoform and boric acid were freely dusted in, and the cavity was packed with a sponge which had been soaked in Van Sweiten's sublimate solution.

I never before witnessed such a rapid recovery from what is ordinarily a long, tedious and painful affection. The patient did not at any time have pain enough to require an opiate. There was very little sloughing and suppurating, for we had pret-

ty thoroughly cleaned out the carbuncle. The dressings were renewed twice a day, and the most thorough antisepsis maintained. The wound rapidly filled up by granulations. At the end of a week, Mr. F. was able to show himself out doors and on the street, and in a fortnight to attend to some light work. At the end of a month from the commencement of the carbuncular swelling, he was practically as well as ever. At the time when I first saw him, he had been suffering just a week.

In the *Brit. Med. Jour.*, March 24 and 31, 1888, appeared two articles on the subject of excision and scraping of carbuncles ; the one by Mr. Page, Surgeon to St. Mary's Hospital, London, the other by Mr. Rushlin Parker, of Liverpool. These articles are referred to by Dr. Robt. F. Weir, in a recent article in the *Med. Rec.* Dr. Page presented three cases of carbuncle treated by scraping, and Mr. Parke reported five cases. In all these cases, the improvement was prompt and marked. Dr. Weir, in commenting on these cases, corroborates from his own experience the good results that were obtained by the other surgeons, and affirms that the risks of pyemia, septicemia and exhaustion are much lessened by this process, while he is convinced that the immediate constitutional effects of pain and fever are promptly checked by such mode of treatment, and that repair is more rapidly established when it is resorted to.—*Med. Age.*

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## POST-MORTEM SWEATING.

BY JOHN A. CONES, M. R. C. S., L. R. C. P., ETC.
Resident Medical Officer for St. George's Retreat.

The following marked case of post-mortem sweating is unique, as far as I can ascertain, in the records of medical science; this and its importance to the medical jurist has induced me to bring it to the notice of the profession. I have failed to find in the literature that I have been able to examine any instance of a similar observation, and I am therefore induced to give the leading features of the case, both ante- and post-mortem, in some detail.

The patient, male, æt. 42 years, had for over nine months been suffering from albuminuria. The albumen never exceeded one-fourth. Microscopical examination of the urine showed no casts, but abundant urates; there was no dropsy or ascites. Ten days before death he was suddenly seized with uremic coma and left hemiplegia, which last persisted unchanged to the end. The temperature was normal until the last few days, when it was considerably higher, ranging from 102° to 104°, and so persisting to within six hours of death, when it steadily sank. All treatment to produce diaphoresis gave very slight and unsatisfactory results; and the skin, though not absolutely dry, was destitute of sweat to any extent during the earlier days of his fatal attack. Hypodermic injections of pilocarpine were given on four occasions, the dose being gradually increased; the last injection (one-third of a grain) was given three days before death; this produced a fair amount of sweating for about twenty minutes, but was not repeated on account of the excessive bronchial secretion it gave rise to. Forty-eight hours, however, before death the patient began to perspire profusely, and this continued without interruption to the very end, even when the surface temperature was decidedly subnormal. The body, as usual, was washed and laid out on the bed, and four hours afterward was removed thence to a bier, nothing unusual being noticed at the time of removal or before. When, however, the body was seen next morning—sixteen hours after death—it was at once noticed that the sheets and pillows on which it lay were absolutely saturated with sweat, and the skin felt moist and clammy; this continued for at least eight hours, but thirty hours afterward it had apparently ceased, and the sheets, etc., were drying. It was also noticed that post-mortem discoloration was well marked even when the body was first seen.

The points I would like to draw special attention to in the above case are: the considerable time that must have elapsed after death before the secretion was poured out, at all events in any quantity, and the great

amount of the same. I regret, however, that not even an approximate estimate of the actual amount could be made. It must, however, have been considerable, as was evident from the condition of the linen. Dr. Carpenter, though he does not give any instances, says that post-mortem secretions are known to take place, and goes on to explain their occurrence by the assertion that capillary circulation may be maintained for a short time after "somatic" death has taken place. The only instances in which this form of circulation seems to have been observed in the adult are in those given by Dr. Bennet Dowler, in the *New Orleans Med. and Surg. Jour.* (Jan. 1849). These are mostly cases of rapid death from severe acute disease, and the capillary circulation is said to have continued in them for a few minutes after death, but never for any lengthened period. Dr. Carpenter seems also to have held the opinion that post-mortem secretions may, under certain circumstances, take place, the material for such secretions being supplied by the blood in the vessels at the time of death, the gland cells themselves containing their molecular life for some time after the suspension of the general circulation. No instance of such an occurrence in man seems to have been recorded, but the following instance in that of a rattlesnake is quoted by the author in support of the theory. Mr. T. Bell says that, being engaged in the careful dissection of the poison-apparatus of a rattlesnake, the animal having been dead for some hours and the head taken off immediately after death, he found that the poison continued to be secreted as the dissection proceeded, and in such quantities as to require being occasionally removed with a sponge.

Neither of the above theories seem fully to explain the case I now record; for when we consider the interval that elapsed after death before the secretion was poured out, we should be compelled either, on the one hand, unwarrantably to extend the period during which post mortem capillary circulation may be continued, or, on the other, to suppose that molecular cell life persists much longer than is generally admitted, after all systemic vital functions have ceased. The explanation, however, which suggests itself to my mind, and which I venture to give here, is this. The patient was sweating freely up to the time of his death, and we may therefore suppose that the glands and lymph spaces surrounding them were fully charged with fluid at the time. If so, then, when the rigor mortis began, the contents of these glands and lymph spaces may have been mechanically pressed and filtered out. For Dr. Brunton, in a valuable paper on the Pathology of Dropsy tells us that the beautiful experiments of Claude Bernard on the influence of irritation of the chorda tympani on the secretion of the submaxillary gland shows that the secreting cells do not derive the materials for their secretion directly from the blood, but indirectly through the lymph spaces which surround the alveoli. These spaces form, as it were, reservoirs—so much so, indeed, that if care be taken to fill them during the experiments, the gland will continue to secrete even after the head is removed from the body. It might be objected that the quantity was too great to be so accounted for; but this, I think, is fairly met by remarking that the number of sweat glands and their corresponding lymph spaces distributed over the body is very great (according to a calculation made by Sir Erasmus Wilson, there are, in a person of ordinary stature, about seven millions of sweat glands, with an aggregate length of perspiratory tubing of about twenty-eight miles), and a little fluid from each would therefore amount to a considerable quantity.

Now to reflect for a moment on another possible explanation of the above phenomena. If we consider the somewhat analogous instances of post-mortem rise of temperature, I think it will be admitted that, to explain their occurrence by the assertion that they are due to the stoppage of the circulation through the lungs, and to the consequent cessation of one of the sources of loss of heat, does not account for an absolute rise of temperature after death; much less does it offer an explanation for those cases in which the rise has

taken place, to the extent of even 4°, after an initial fall of temperature. With our present knowledge of the influence of the nervous system on the production and regulation of the body-heat, would it be unphysiological to suppose that these cases of post-mortem rise of temperature are due to the production of an autogenetic stimulus in the cadaver, which excites the thermogenic center into action? This, I think, might be granted, if we admit, with Dr. Carpenter, that molecular cell life may continue after "somatic" death has taken place. Again, if we accept this theory of Dr. Carpenter, it follows that cells or groups of cells die at longer or shorter intervals after the vital functions have ceased, and the higher they stand in the scale of development the earlier they are likely to die under the circumstances. The highest center regulating the thermic functions is the thermotaxic or inhibitory; and if this function be destroyed before the lower, which it controls, then the thermogenic and thermolytic centers will come into action, producing a rise of temperature. In the same manner, might not post-mortem sweating also be explained on similar grounds? M. Straus, in an exhaustive monograph on the Mechanism of Sweating, tells us that the conclusion arrived at after experiments on animals by A. Kendall and Luchsinger it that the secretion of sweat is entirely under the influence of the nervous system, and independent of modifications in the circulation. They succeeded in inducing profuse sweating in the limbs of animals, previously rendered exsanguine, by stimulation of the main nerve-trunk, and in recently amputated limbs; and also on stimulation of the medulla oblongata after ligature of the aorta. M. Vulpian likewise found that abundant sweating may be induced by faradaic stimulation of the nerves of a limb, the sweating being coincident with a marked diminution in the size of the vessels of the part. Experiments of hypodermic injections of pilocarpine on the recently dead subject, and on limbs immediately after amputation, always gave negative results. The further elucidation or this question I must, however, leave to those better qualified to deal with the subject.

As regards the medico-legal bearings of this case, it will readily be imagined that a dispute as to the time of death might arise. In the present instance the appearances presented by the body were those of very recent death, which might plausibly have been asserted to have taken place much later than it actually did but for the post-mortem discoloration. It also shows that sweating is no proof that a person is apparently, not really, dead—a point of some interest both to the medical jurist and the general practitioner who might be called on to verify a doubtful case.

I have said that I believe the above case is unique in the annals of medicine. I do not of course imagine that post-mortem sweating has never occurred before, but that it has not been noticed and recorded, and I now desire to call attention to it in the hope that those who have greater opportunities than myself may look for this interesting phenomenon, and record their observations.—*Lancet*.

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## INDICATIONS FOR TREATMENT OF MALIGNANT PUSTULE.

BY S. L. WOOLMER, M.R.C.S.

So much has been written about the treatment of malignant pustule, that it is well to draw attention to the safest and most convenient treatment of all—viz., the actual cautery. As the treatment has for its object the destruction of the pustule and a portion of the surrounding healthy tissue, so is the inefficiency of other methods, excepting the actual cautery, clearly demonstrated in cases where the pustule appears upon or near the trunk. Of the many methods subjected, the injection of pure carbolic acid into the healthy parts around the pustule is perhaps the most popular. This process is in itself extremely painful, and, if the pustule is at all large, necessitates an extreme amount of suffering on the part of the patient, and by no means invariably gives him a corresponding

satisfactory result. Other caustics have been tried—as the acid nitrate of mercury and chromic acid—but with little success.

A process that is employed in this country and which has been attended with considerable result, has been to divide with the knife the pustule down to the healthy tissues in a similar manner transversely. Into these incisions powdered bichloride of mercury is well rubbed. This method I have tried in two cases, but I cannot say to my satisfaction. In both cases the postule was very large and of some days' duration, and in both cases the actual cautery was the successful remedial agent.

The application of Paquelin's cautery to these pustules does not seem to be very painful. It is of course necessary to cauterize the adjacent parts, but the pustule itself in very many instances seems perfectly anesthetic. If the pustule is small, an injection of half a grain of hydrochlorate of cocaine beneath the pustule will enable one to cauterize without the patient experiencing any pain. When the pustule has attained any size, it is better to administer an anesthetic. It is very necessary to burn thoroughly the whole pustule and some half centimeter around it. I have seen many cases where it has been necessary to repeat the cauterization in two or three days, at much risk and inconvenience to the patient.

The site of the pustule and the extent to which the glands are implicated naturally offer a good indication for the necessity of energetic treatment or otherwise. In the case of a small pustle on one of the fingers, with perhaps no intufarcts except in the little gland situated above the internal condyle of the arm, it is only required to burn the pustule thoroughly ; and on the third day, provided there be no infarcts of increased size, and the margin of the burn shows no indications of the development of the pustule, the patient may be considered out of danger.

In some cases the pustule itself seems to develop, with very little apparent generalization of the disease ; whilst in others, on the contrary, at the end of a week the pustule may measure less than a centimeter in diameter, and yet in the axilla there may be found infarcted glands the size of a fist. These latter cases are very insidious, and require most energetic measures. On account of the small size of the pustule the patient may be liable to under-estimate its importance, and attribute his ill health (due to the intoxication by the poison) to other sources. In two such cases, one patient imagined he was the subject of a broken chilblain, and another that a wart had suddenly developed itself. In these cases it is necessary to burn thoroughly the pustule and to lay open the axilla and remove all the affected glands. When the pustule has developed itself to a great extent, there does not seem to be so much urgency. Certain it is that the whole system finally becomes intoxicated, but the process takes place much slower.

Pustules upon the face and trunk require immediate measures. In these cases it is very notable that if the cautery be inefficiently applied, the growth of the pustule seems to be greatly accelerated. In a case under my care a short while ago, a man had a small pustule at the external angular process of the frontal bone. It measured about 80 milimeters in diameter. He had noticed it some thirty-six hours, and it had increased in size but little. The actual cautery was applied, and the pustule burnt thoroughly almost to the bone. In twenty-four hours there was considerable swelling over that side of the face and neck, and the pustule had increased to some 2 centimeters in diameter. The following day the tissues of the face and neck were greatly indurated, and a pustule had appeared upon the upper eyelid. This was treated in the same way, to be followed on the next day by another on the lower lid. In this way did it progress until seven distinct pustules had appeared, and he had been cauterized seven distinct times. Then his condition began to improve, and although the cheek is rather brawny, and the eylids will require some plastic operations, he is otherwise in good health.

As the diagnosis of a postule in its early

stage is not always easy, especially when the microscope has given negative evidence, it is assuring to know that the enlargement of the little gland situated above the internal condyle will often give the first clue of its malignancy. This gland is rarely enlarged above the size of a pea. The other day I saw a case (although clearly not malignant pustule, probably allied to it, and designated here by the native as "maucha," a "stain"—a name, in fact, applied popularly to any conspicuous skin lesion), in which the gland had attained the size of 3 centimeters by 2. The "pustule" had more the appearance of a large wart, and as, according to the patient, the axillary glands had been enlarged, but had at a later period spontaneously diminished in size, I burnt thoroughly the pustule, and, in view of the history, sent him home. In four days' time the gland above the internal condyle had diminished to the size of a small bean.

In conclusion, I maintain that the actual cautery forms the safest and most convenient remedy, as producing less pain and suffering, and as being more efficient to reach the diseased tissues. Out of forty cases in the recent epidemic in this neighborhood, the mortality was only one, being a case which was not seen till the tenth day, and in which great generalization had existed from the first.—*Lancet.*

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## THE TRANSMISSION OF TYPHOID FEVER FROM THE MOTHER TO THE FETUS.

A recent number of the *Fortschritte der Medicin* contains an interesting article by Dr. C. J. Eberth, of Halle, concerning the transmission of the typhoid fever bacillus from the mother to the fetus. Numerous observations and experiments upon this subject have previously been made with apparently positive results, but none of these observations have been entirely free from objection; and in none of them has the character of the organism found in the fotus been fully determined.

The first reported case of the apparent transfer of the typhoid process from the mother to the child was publishod by Reher in 1885. In this case a woman in the sixth month of pregnancy, while sick with typhoid fever, aborted on the nineteenth day of the disease. Soon after the abortion occurred the temperature fell and convalescence was established. The fetus seemed to have died either shortly before or during birth. There was no swelling of the follicles in the intestines, there were no ulcers, there was no swelling of the mesentery glands, and there was no increase in the size of the spleen. But inoculations from the liver and spleen upon nutrient gelatin gave cultivations of isolated colonies of typhoid fever bacilli. No bacilli, however, could be found in cover-glass preparations made from the spleen or liver. This observer explained the absence of the characteristic lesions of typhoid fever on the ground of the altered avenue of entrance of the bacilli, since here they must have entered directly into the circulution, and there multiplication and colony formation would, he thought, be different from those occurring when they had effected their entrance through the alimentary canal or the respiratory passages.

The second case was reported by Neuhauss, and in that case abortion took place in the fourth month of pregnancy and in the fourth week of the disease, four days after the temperature had fallen to the normal point. Inoculations were made with particles of the lung, the liver, the spleen, the kidneys, the brain and the contents of the intestines upon nutrient gelatin. After two days a growth of the typhoid fever bacilli was found in the tubes which had been inoculated with particles of the lung, spleen, and kidney. The spleen of the fetus was not enlarged, and there was no swollen patches or ulcers in the intestines.

Chantimesse and Widal found typhoid bacilli in large numbers in the blood of the placenta of a woman who had aborted at the fourth month of pregnancy and the twelfth day of the fever. Cultivation tubes inoculated with this blood gave numerous

colonies. The cultivations were afterward used for the inoculation of animals.

In none of these observations as reported have there been careful descriptions of the organisms found, so that their identity with the typhoid fever bacilli could be determined. Eberth, however, details the history of a case which apparently affords proof of the possibility of the transmission of typhoid fever from the mother to the child. In this case, a woman, æt. 30, the mother of six children, at the end of the third week of typhoid fever and about the seventh month of pregnancy, gave birth to a child. The fever continued for several week after. The diagnosis of typhoid fever was confirmed by the whole course of the disease as reported. Eleven hours after the birth, after cleansing of the outer skin and conplete sterilization of the operator's hands and instruments, the thorax of the fetus was opened and the heart was removed. Then tubes were inoculated from the heart-blood, other tubes were iuoculated from particles from the lung and spleen, and preparations were made from these for microscopical examination. There were no preceptible changes in the placenta or in any of the organs of the fetus. In the preparations from the heart blood, after long searching, a few isolated bacilli, four or five in a field, were found; they corresponded in appearance to the typhoid-fever bacilli. These were also found in preparations made from the lung and from the spleen, but in sections from the spleen no organisms could be found. At the end of the second day, in the gelatin cultivations a perceptible growth was apparent, which afterward showed all the characteristic appearances of cultivations of typhoid-fever bacilli in gelatin tubes. On transfer of these tubes to gelatin plates, to potatoes, and to other media, they presented always the characteristic appearances of the typhoid fever cultivation on these various substances. Their staining reactions also corresponded with those of typhoid fever bacilli. In order to exclude the possibility of error from the presence of some organism of decomposition similar in appearance to typhoid-fever bacillus, that might have found its way into the fetal blood, eight other cases were examined in which abortion had occurred from other causes than typhoid fever at various periods of pregnancy. In none of these did any organisms develop that in any way resembled those found in the first case; and in the inoculations made from the fetus in perfectly fresh cases of abortion no cultivations were obtained.

When we compare, then, the results obtained by Reher, Neuhauss, Chantimesse and Widal with the results obtained by Eberth in these eight cases we must conclude that the organisms they found in their cases were the typhoid fever germs, and that these germs may be transmitted from the mother to the fetus. For the complete identification of the organism found by him with the typhoid fever bacillus, Eberth sent cultivations to Gaffky, of Giessen, and these were carefully examined by him and also declared to be typhoid fever bacilli.

Eberth concludes that it is not possible with the scanty material at hand to say whether the typhoid fever bacillus is alawys transferred from the mother to the child or only under certain conditions. It seems probable, however, that disturbances in the placental circulation, especially hemorrhages, favor transfer of the bacilli to the fetal body.—Ed. *N. Y. Med. Jour.*

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## SECONDARY OCCLUSION OF THE BOWELS FOLLOWING LAPAROTOMY.

With the aid of antisepsis and the technique of modern surgery we are now able to cope with the two greatest dangers of abdominal surgery, viz., septic infection, what for a long time was known by the name of "shock," and secondary hemorrhage. Of late years laparotomy has become an almost common operation, although there are but few surgeons who can boast of having done it o e thousand times, like Sir Spencer Wells and Lawson Tait, yet the records of many hospital show that the operation is becoming a more frequent one.

But now another great enemy to the suc-

cess of laparotomies is agitating the minds of surgeons, viz., secondary occlusion of the bowels, which is caused almost exclusively by adhesions to the peritoneum.

Dr. Alfred Obalinski, in the *Berliner klinische Wochenschrift*, March 25, 1889, speaks of three cases of occlusion of the bowels out of eighty-six laparotomies performed by him. Two of the cases were operated upon and recovered, the third came too late for treatment, and died. The causes for such adhesions are, according to the statements of various surgeons, first, the presence of foreign bodies, such as catgut, silk ligatures and the like; second, the presence of irritating fluids, such as solution of bichloride of mercury or carbolic acid, and third, overlooked wounds or lacerations of the peritoneum.

Dr. Th. v. Dembowski states that after experimenting largely upon animals, he has found that adhesions can be produced with certainty only through the presence of foreign bodies or as a result of cauterization; also that the presence of iodoform, blood-clots, irritative antiseptic solutions, or even wounds of the peritoneum, never give rise to any adhesions.

The experiences of Obalinski agree with the conclusions of Dembowski. In the three cases mentioned above, the adhesions were not in the vicinity of the sutures or ligatures nor near any lacerations of the peritoneum. He explains their cause as follows:

Those portions of the bowels which are ex posed to the atmosphere during the operation gradually assume a reddish color and then become covered with a fibrinous deposit. The same parts are necessarily handled both by the operator and his assistant, and it was at these portions of the bowels that Obalinski invariabiy found the occlusions.

The adhesions are not caused by septic peritonitis, for if such were the case, death would invariably follow. Early diagnosis of such occlusions is of the greatest importance. The principal and most infallible symptom is the anti-peristaltic movement of the bowels above the obstruction. The symptoms of occlusion should not be confounded with those of peritonitis; for, although fever may accompany it and there may be distension of the abdomen, yet the latter will always remain soft and will not be sensitive. That this mistake has been made, however, has been frequently proved by autopsies where the peritoneum has been found to be smooth and shining and the occlusion to be merely a mechanical one.

Secondary occlusions of the bowel are far more easy to diagnosticate than primary occlusion, for, as they occur after laparotomy, they may be treated before delay has precluded the possibility of recovery.

Sibileau (*Annals de Gynecologie*, February, 1889) and many other authorities are against the immediate use of the knife, as soon as the existence of occlusion has heen proved, and they state that in many cases such symptoms as vomiting and stoppage of the bowels, distention of the abdomen, collicky pain and the presence of albumin in the urine may be overcome by large doses of belladonna. Obalinski, on the contrary, considers such symptoms a direct indication for speedy operation.

The prognosis of such cases is not so gloomy as is generally supposed. Sir Spencer Wells tells of eleven deaths from occlusion out of one thousand laparotomies. The prophylaxis of occlusion after laparotomy has been much discussed in gynecological societies, both here and abroad, and many theories in regard to it have been advanced.

Muller (*Archiv. fur Gynakologie*, vol. xxiv, p. 1) suggests the injection of a stirilized solution of salt and water (seven per cent) into the peritoneal cavity, in order to prevent the irritated surfaces from coming in contact with each other. A similar use of olive oil has also been suggested. Dembowski, by a large number of experiments upon animals, has proved the untrustworthiness of both of the above proceedings. The salt and water solution is absorbed too quickly to be of any value, and the oil causes suppuration and peritonitis. The same experimenter also proved that the use of iodoform, bichloride and carbolic acid could not cause any adhesions.

In conclusion, it seems that reducing the exposure and manipulation of the bowels and peritoneum to the lowest limit possible would greatly lessen the chances of adhesion; while the occurrence of secondary occlusion should not cause lhe surgeon to despair, as the condition is easily recognized and many cases not difficult to overcome.—Ed. *Med. and Surg. Reporter.*

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Care of the Teeth from a Medical Practitioner's Stand-Point.—The influence exerted on the nervous system, and especially on the nervous distribution about the head is certainly very much greater than many practitioners have any idea of, and much greater than they are in the habit of acknowledging.

In his excellent article on this subject, read before the Practitioners' Society, New York, Dr. Samuel Sexton says that "dentition is spoken of as a physiological process, but nature very often dispenses rather torment than pleasure, during the active stages of dental evolution."

This statement becomes altogether plausible when we recognize the fact of the blunt crown of a tooth having to force its way through gum-tissue that is often very tough and resisting to even more potent forces, and as Dr. Sexton says, "this causes a severe draft on the infant's store of nervous energy, and in many cases it can but be a source of wonder that they survive the struggle."

The trauma, he says, being not infrequently a cause of convulsions, or exacerbations of ear- nose- or eye-trouble to which the process may happen to be particularly obnoxious.

The retro-active influence of these organs on each other is a well known fact; the moment one of them is affected the morbid influence is communicated to the rest, though not always in a uniform degree.

Difficult dentition often presents a formidable complication in the exanthemata,and it is a common thing for the teeth afterward toshow evidence of mal-nutrition which is often distinctly marked by the arrest of development, so as to leave various tracings on them, and to modify their shape and strength very materially; although in this connection Dr. Sexton says that he has looked in vain for characteristically marked teeth which might be traced to any particular disease, such as has been described by Hutchinson, for example, as due to syphilis.

In poorly nourished children, and in those who are over-worked, either mentally, as in the cramming process, or physically, as stern necessity often demands among the poorer classes, the teeth are notably bad.

From the article of Dr. Sexton we draw practical conclusions as follows:

That there are three periods of dentition, each of which requires especial care and intelligent watchfulness.

In the first period (deciduous teeth), close observation and the application of the gum-lancet will save many a little sufferer from untold torture, and will perhaps be the means of rescuing many a one from an untimely grave.

The second period, covering a space of six years, does not perhaps exert such a powerful influence on the general system as the first, except in the ill-nourished children and in those with constitutional taints, in which various complications may be avoided, and unsightly deformities of the mouth averted by judicious care during this time.

The third and final period of dentition is the eruption of the wisdom-teeth, and is usually completed about the twenty-second to the twenty fourth year.

The processes of dental evolution in this period is often a source of great irritation and suffering, though not such as to cause serious complications, but such as to demand surgical interference for relief. Free incision of the super-imposed, swollen and inflamed gum is perhaps all that is required, unless, as in the case illustrated by Dr. Sexton, the direction of the wisdom tooth is such that it forces itself forward against the second molar, in which case extraction would be the proper procedure.

Aside from these periods in which especial care is necessary, the teeth must at all

times be subject to strict attention as to the important matter of cleansing, which constitutes a most potent prophylactic, when properly performed, against that much dreaded condition of caries. In speaking of this, Dr. Sexton makes some very appropriate suggestions.

He takes the ground that these teeth(carious or so-called dead teeth) should not be retained in the jaw, and while his argument is apparently quite sufficient to establish his position, most persons prefer to run the risk involved by retaining such teeth rather than be put to the unpleasant necessity of using artificial ones.

The doctor makes an excellent point when he says that the necrotic process in a carious tooth is not permanently retarded by filling the cavity.—*Med. Rec.*

## BOOK REVIEWS.

PHYCHOLOGY AS A NATURAL SCIENCE APPLIED TO THE SOLUTION OF OCCULT PSYCHIC PHENOMENA. By C. G. Raue, M.D. Philadelphia, Porter & Coates.

The first paragraph of the preface to this work reads as follows: "The application of phycology as a natural science to the solution of occult psychic phenomena implies, first of all, a concise statement and a clear understanding of psychology as a natural science. For this reason it was absolutely indispensable to devote a large amount of space in this work to the elucidation of the principles upon which the final conclusions are based."

There are few people prepared to regard "psychology as a natural science" and hence any attempt to prove that it is such becomes rather dreary reading to any but a comparatively few enthusiasts on these questions. Hence some of the volume before us is pretty heavy. However, it contains much that is worth reading carefully by every physician.

The last part of the work, Part VI, on Occult Phenomena, contains many remarkable statements and recitals of facts, and the author's explanation of them is not uninteresting.

ELECTRICITY IN FACIAL BLEMISHES. By Plym. S. Hayes, A.M., M.D, Prof. of Electro-Therapeutics, etc., in the Chicago Polyclinic.

This little work gives a description of the method of operating in the removal of hairs, naevi, etc., from the skin. The author is evidently perfectly familiar with the process he describes, having operated extensively enough to learn many points, of which he gives his readers the benefit about as well as can be done in print. As he says, though, in the matter of the removal of hair especially, it is very desirable that one before attempting it should see an adept work. To those not having such an opportunity the book will be of great service, as well as to those having had some experience.

REPORT OF THE ILLINOIS STATE BOARD OF HEALTH ON MEDICAL EDUCATION, MEDICAL COLLEGES AND THE REGULATION OF THE PRACTICE OF MEDICINE IN THE UNITED STATES AND CANADA, 1765 TO 1889. By John H. Roach, M.D., Secretary of the Board.

The Report has been on our table for some time past, and at odd moments we have frequently picked it up, always to run across some item of new interest in it. We are impressed with the amount of work represented in it. The work of this Board has no doubt done more than any other one influence to advance the standard of medical education in this country. One of its means of doing this is the frequent appearance of these reports, in which all the colleges are compared in black and white. This last report contains lots of black letters, full-faced type, the same being used to indicate the colleges that within the next year or so will have three-term courses. The showing is splendid and should encourage the friends of higher medical education. A wide circulation of this report with this kind of a showing would certainly have some influence on the courses of schools that are still behind the times in these matters.

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